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ABSTRACT

This monograph points out the difficulties in language development of which teachers should be aware, suggests some methods through which children may be helped to overcome comprehension problems, and presents bibliographies helpful for persons who wish to undertake further reading. Chapters include "Some Possible Origins of the Prevalence of Verbalism," which defines verbalism and discusses the symbolic nature of language; "Reading and Understanding," which presents basic facts relating to understanding in reading, examines sources of difficulty in acquiring meaning, and suggests several necessary conditions for efficient teaching of reading; "How the Curriculum May Contribute to Understanding," which stresses the importance of first-hand experience in learning, presents studies on the significance of experience, and suggests approaches toward an experience-centered curriculum; and "The Development of Thinking and of Concepts," which stresses developing sensitivity toward word meanings and presents research acquainting teachers with the difficulties children encounter while acquiring language. Each chapter contains a bibliography. (RB)

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Interpreting Language: An Essential of Understanding

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Prepared by a Committee of
The National Conference
on Research in English

O. R. Bontrager
William S. Gray
Helen Rachman Knepp
Ruth G. Strickland
J. Conrad Seegers, Chairman

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Interpreting Language — An Essential of Understanding:

Foreword

J. Conrad Seegers[1]

General Introduction

Technically, this monograph is not a presentation of semantics. It avoids many of the philosophical implications associated with that field and pays no attention to the therapeutic aspects treated in much of the literature. In one of the subsequent chapters, that by Dr. Bontrager, there is, however, a presentation of Korzybski's viewpoint. That is, both what may be termed a language-experience approach and a word-word approach are introduced. Primarily, the monograph tries to point out the difficulties in concept development of which teachers should be aware, suggests some methods through which children may be helped to overcome difficulties of understanding, and presents bibliographies helpful for persons who wish to undertake further reading.

It is almost platitudinous to say that difficulties of understanding are bound to occur whenever a person tries to transmit his thoughts to another, or understand the language of a speaker or a writer. The idea is at least as old as Socrates, and has been generally accepted, in a passive sort of way, since Plato wrote the *Dialogues*. But to this day we find teachers and writers, speakers and listeners, assuming a meeting of minds where no such meeting exists. It is difficult for teachers of literature to understand that many pupils interpret literature either with difficulty or not at all. The abstractions of the social studies, the semantics of arithmetic, the development of reading skills, the concepts of the physical sciences, the oral presentations of teachers, the reports of pupils, the easy generalization of daily speech, the pat phrases of advertisements or of the newspaper or radio commentator — all of these produce abundant semantic difficulties.

If we are to teach language, or use language in teaching, as we must, we should be aware of the nature of language and of linguistic pitfalls. We must remember that language is not simply a subject to be taught. It is a way of thinking, of responding, of participating. It is a means and manifestation of growth. Language is a means of growth in more than a strictly intellectual sense. It is bound in with the development of personality and stability. If language development is hindered, if expression is repressed, poise, self-confidence and general interest suffer. Loose thinking and loose use of language go hand in hand. If words are understood only partially, or if the receiver or transmitter of communication assumes absolute definitions, assumes that everyone defines specific words as he does, understanding is limited or impossible. All of this, as has been said, seems platitudinous, a set of truisms. One would assume that common sense would teach all of us

[1]Dean of Teachers College, Temple University.

such perfectly obvious lessons. But we forget that common sense is a rather uncommon commodity.

Manifestly, volumes could be written to elaborate these somewhat dogmatic statements. Volumes have been written, some of them exceedingly trenchant. But in the space of this very brief foreword it is expedient to state only a few general principles which this monograph wishes to emphasize, and which the following chapters elaborate.

1. We must teach so as to show the dangers of labels. It is easy to generalize, to label things "good" or "bad," "American" or "un-American," and the like.

2. We must remember that language is learned best and vocabulary is initially acquired through first-hand experience. The farther a concept is removed from first-hand experience, the more difficult is that concept. Higher level abstractions are extremely difficult to understand, and it is impossible to provide first-hand experiences for many of the abstractions which we want pupils to understand. Two principles of teaching emerge from these statements. One is that as far as is practicable, first-hand experiences should underlie the curriculum. Second, if number one is impossible, discussion, illustration, and similar approaches must be ample.

3. Figurative language occasions difficulty. Phrases like "The Fair Deal," "The Labor Movement," "The Fifth Column," "Boring from Within," many of the phrases used to advertise products, such as "Golden-Throat," are examples.

4. Shifts in meaning occasion difficulty. In one sentence an author may use "communistic" to refer to party tenets, in another to describe something he does not like. In addition, words themselves shift meaning over a period of years, or as we go from one place to another. "Wench" was once a perfectly respectable word. "Bloody" means one thing in England, another in the United States.

5. One's emotional set has a great deal to do with the interpretation of many words. All of us could agree on a dictionary meaning for words like "Democrat," "Republican," or "Communist," but the actual interpretation placed upon them would depend upon our attitudes toward the referent.

6. Precise definition is, except for certain very specific, mostly scientific terms, virtually impossible. We define relatively, not precisely.

Comments Upon Following Sections

1. Dr. Bontrager lists factors inducing verbalism, describes the difficulty of definition, points out the subjective aspects of interpretation. He shows how words shift meaning or lose meaning as knowledge is extended. He emphasizes the dangers of generalization, how it so often disregards differences while emphasizing superficial similarities. He speaks of the effect of emotional sets. He comments at length upon the verbal nature of much instruction and upon how easily words may be used to conceal or distort truth or thought. His paper is based fundamentally upon Korzybski's doctrines.

2. Dr. Gray pays particular attention to understanding as it should be developed through and in the reading program. Children increasingly need help in interpretation as they proceed from lower to higher grades, because in increasing degree the language met in reading materials departs from the normal experience of the reader. Dr. Gray warns that the interpretation of reading, and the constructs necessary for interpretation require thinking of high order. Increasingly one must read between lines, must supply thought.

It is very easy to assume that a reader understands if he can pronounce words, and in a perfunctory sense define them. But the area of understanding, the breadth of comprehension which real interpretation demands, far transcend such relatively simple abilities as the ability to pronounce and define simply.

A few years ago we ran across a statement, in an article designed for third graders, to the effect that "the floor of this virgin forest has been building for years." Take this statement as an example, and think of the previous knowledge, or extension of existing knowledge, which full understanding of this simple statement requires.

What is the floor of the forest? How is it produced? What has gone into it? What is a virgin forest? What are the sequences of growth in such a forest? One could go on at quite some length.

In any geography, or history, or science text, and in many stories and bits of literature, one can find statement after statement which, if complete interpretation is to be achieved, requires background information and ability to go beyond simple printed words.

Another example derives from a group of fourth graders who were reading about "The glowing orb of the sun."

Now it is manifest that to many fourth graders this phrase would mean something, to others practically nothing. But let us go on to ask what an *orb* is, and why the sun appears to be a disc in the sky, and why it glows, and what that glowing means to us. Imagine the interpretation placed upon that phrase by first a fourth grader, then, in order, by an average college graduate, a biologist, a physicist, an astronomer, and a mystic. Such extensions of thinking as this suggests surely demands, as Dr. Gray points out, thinking of a very high order. Dr. Gray says that we must teach children to do their reading with their minds intent upon meaning, and to begin this in grade one. He also tells us that this kind of reading must be achieved through a vital curriculum and a stimulating environment. He wants experiences which will develop vocabulary and create intellectual curiosity. He also pays considerable attention to provision of different types of reading material, because we read differently as purpose changes, and for reading material graduated in terms of interest and difficulty. He rightly points out that intelligent reading is dependent upon skills, and asks for the development of those skills. Nor, he says, can we depend upon anything resembling a dead level of ability at any grade placement. We have to take children where and as they are, and teach skills as the necessity presents itself. But this by no means implies that there is a separation of the two goals of acquiring skills and discovering meaning. The two go together. If no meaning is derived, no skills are developed. These are not separate and discrete processes. The differences are differences attributable to methods needed in the light of discovered needs and status.

5. Dr. Strickland carries on with particular reference to the curriculum which Dr. Gray demanded. She points out the need for self-expression, in order that language may be made meaningful through use. She speaks forcefully of the deplorable emphasis on text book assignments even yet too prevalent in many of our schools. This leads too often to passive acceptance, to reading without "minds intent upon meaning," as Dr. Gray would put it, to meaningless use of words, to absolute verbalism barren of thinking.

Interaction with people, she says, leads, on the other hand, to understanding people, and how language is used to communicate with people. That is how language developed initially, and still develops, and it is how an individual gains skill in the use of language. That is one method of combatting verbalism. Meager experience makes for meager control of language, Dr. Strickland explains. She especially recommends a decrease in the number and difficulty of abstract concepts, remote from the experience of children, for concepts can be achieved only to the extent that experience has provided suitable backgrounds for them. A purely linguistic or textbook approach cannot

be substituted. Of course it does not mean a non-reading curriculum, of course not less emphasis upon the acquisition of skills. It describes a curriculum by means of which skills are acquired more completely, textbooks can be used intelligently, and thinking will be stimulated and verbalism combatted. Dr. Strickland cites considerable evidence to substantiate such claims.

4. Dr. Knipp first develops the necessity of paying attention, from the beginning, to shifts of meaning, and suggests a number of specific methods. First she suggests exercises in which children use the same word in different senses, both with the direct help of the teacher and independently. She suggests having children pay particular attention to newspaper or magazine reading, or to the radio, in order to collect and bring to class for comment words or phrases that have multiple meanings or which require explanation. She, too, emphasizes concrete experiences, and lists many possible audio-visual aids. She speaks of context clues, and how we must assist children to utilize them. But she wisely asks also for training in the use of the dictionary. Over-reliance upon context clues may well lead to superficiality and partial or even erroneous interpretations. It is necessary, too, to help children to use the dictionary with discrimination, to decide which definition is pertinent.

She develops a rather considerable list of specific exercises. She does not necessarily imply that these exercises should be developed out of context. Rather, they should be derived from context. There is considerable evidence to indicate that non-contextual, discrete exercises are of dubious value.

Dr. Knipp suggests analyses of materials which teachers themselves may conduct in order to get some pre-view of semantic difficulties children are likely to encounter in books which they use, and simple tests derived from those materials. She is not willing that understanding should simply be assumed. These tests too, it is important to note, are derived from context, and are not just abstract, dissociated tests.

A Suggested Bibliography

1. Arons, L. "Serial Learning and Generalizing Abstraction," *American Journal of Psychology*, XLV, No. 3 (July, 1933), 417-32.
2. Bateman, R. M. and Remmers, H. H. "The Relationship of Pupil Attitudes toward Social Topics before and after Studying the Subjects," *Bulletin of Public Opinion*, XXXVII (1936), 27-42.
3. ..... "The Relationship between the Ability to Recall and the Ability to Infer in Specific Learning Situations," *Bulletin*, Northeastern Missouri State Teachers College, XXXIV, No. 9 (1934), 55.
4. Bedwell, Margaret. *Comprehension of Concepts of Quantity in Third Grade Social Studies Materials*. Master's Thesis. Iowa City, Iowa: University of Iowa, 1932.
5. ..... "Reading: Semantic Approach," *Education*, LXIX, No. 9 (May, 1949). (Reprints available at Philadelphia 22, Pa.: The Reading Clinic, Temple University).
6. Burt, C. "The Development of Reasoning in School Children," *Journal of Experimental Pedagogy*, V (1920), 67-77, 121-27.
7. Chambers, Will Grant. "How Words Get Meanings," *Pedagogical Seminary*, XI, No. 1 (March, 1904), 30-50.
8. Crossen, Helen J. "Effect of the Attitudes of the Reader upon Critical Reading Ability," *Journal of Educational Research*, XLII, No. 4 (December, 1948), 289-98.
9. Davis, Frederick Barton. *Fundamental Factors of Comprehension in Reading*. Doctor's Dissertation. Boston, Massachusetts: Harvard University, 1941.
10. DeBoer, John J. "Cultivating Powers of Discrimination in Reading," *The School*

Review, LVII, No. 1 (January, 1949), 28-36.

11. Dewey, John. *How We Think*. New York: D. C. Heath and Company, 1933.
12. Fowler, H. L. "The Development of Concepts," *British Journal of Educational Psychology*, I, No. 1 (February, 1931), 13-40.
13. Glaser, Edward M. *An Experiment in the Development of Critical Thinking*. Teachers College Contributions to Education, No. 843. New York: Bureau of Publications, Teachers College, Columbia University, 1941.
14. Hazlitt, V. "Children's Thinking," *British Journal of Psychology*, XX, Part 3 (July, 1929-April, 1930), 354-61.
15. Helseth, E. O. *Children's Thinking*. Contributions to Education, No. 209, Bureau of Publications, Teachers College, Columbia University, 1926.
16. Johnson, Wendell. *People in Quandaries: the Semantics of Personal Adjustment*. New York and London: Harper and Brothers, 1946.
17. Langham, Rosalind S. *A Factorial Analysis of Reading Ability*. Doctor's Dissertation. New York: New York University, 1941.
18. McCarthy, Dorothea. "Language Development in Children," Chapter 10 in Leonard Carmichael, *Manual of Child Psychology*. New York: John Wiley and Sons, 1946.
19. Ogden, C. K. and Richards, I. A. *The Meaning of Meaning*. New York: Harcourt, Brace and Company, 1923.
20. Smoke, K. L. "An Objective Study of Concept Formation," *Psychological Monograph*, LXVII, No. 4 (1932), 46.
21. Thorndike, Edward L. "The Psychology of Thinking in the Case of Reading," *Psychological Review*, XXIV, No. 5 (May, 1917), 220-34.
22. ..... "Reading as Reasoning: A Study of Mistakes in Paragraph Reading," *Journal of Education Psychology*, VIII, No. 6 (June, 1917), 323-32.
23. Tyler, Ralph W. "Measuring the Ability to Infer," *Educational Research Bulletin*, IX, No. 17 (November 19, 1930), 475-80.
24. Watts, A. F. *The Language and Mental Development of Children*. New York: D. C. Health and Company, 1944.
25. Welch, Livingston and Long, Louis. "The Higher Structural Phases of Concept Formation of Children," *Journal of Psychology*, IX, First Half (January, 1940), 59-95.

Some Possible Origins of the Prevalence of Verbalism

O. R. Bontrager[1]

Introductory

The title of this article suggests that *something* is prevalent and that the *something* has been called "verbalism." The prevalence of the *something* has been widely recognized. William James, for example, observed over half a century ago that "the more accurately words are learned, the better, if only the teacher make sure that what they signify is also understood. It is the failure of this latter condition . . . that has caused . . . 'parrot-like reproduction' that we are so familiar with today." (8)

Charles Hubbard Judd was aware "that many a child recites sentences which he has learned without having the slightest conception of the relations expressed by the sentences. Indeed, it is true that a child often pronounces words without understanding their meanings . . Verbalism in the schools is insidious and difficult to avoid." (9)

Among living writers, Ernest Horn has given us perhaps the most extensive accounts of the *something* and, to my knowledge, the most incisive analysis of factors that contribute to verbalism, which, he says, "is not a thing of the remote past, when, indeed, it did sometimes flourish in an exceedingly extreme form; it is still widespread at every level from kindergarten to the graduate school, as well as in society at large." (6)

The man from Mars upon hearing that "verbalism" is prevalent would be entitled to ask, "*What* is prevalent?" If he should consult the dictionary, he would find, among others, this entry: *Verbalism*, n. An empty form of words.

Perhaps this definition does not help him much. In this case, he may look up the definition of the definition, and continue the process until matters become "clear." He investigates and finds:

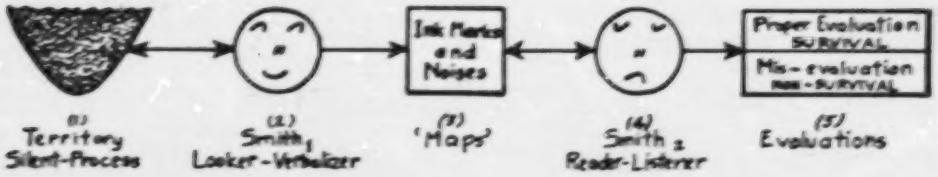
> WORD, n. That which is said; esp., a brief remark or expression
>
> REMARK, *v. t.* to state, say
>
> EXPRESS, *v. t.* to represent in words; to state
>
> STATE, *v. t.* to narrate
>
> TELL, *v. t.* narrate; say
>
> SAY, *v. t.* to express in words

I am sure none of us would blame the man from Mars if he were to become suspicious at this point. In his explorations among the words, he has traveled in a circle, like a man lost in the forest, and finds himself precisely where he started.

Lest any reader conclude that I have racked my brains for an obscure illustration that will further diabolical ends, let him take any word —*any word in the dictionary* — and perform a similar experiment. He will make a discovery that may help him to understand the prevalence of what we call "verbalism." He will discover that he cannot open his mouth to speak, or he cannot write a word, without employing *undefined* terms. That is, with every term, he reaches a point, when he attempts *verbal* definition, where he has exhausted the dictionary and produced only words.

To further illustrate what I represent by the undefined term, "verbalism," I have shown in Figure 1 some of the factors that are in-

[1]State Teachers College, California, Pennsylvania. Copyright, 1950, by O. R. Bontrager.



FACTORS INVOLVED IN LANGUAGE

Figure 1

volved whenever language activity (including "education") is taking place. These factors include: (1) some territory; i.e., the NOT-WORDS happenings, 'things', relations, etc., in the universe; (2) $Smith_1$, the looker-investigator-speaker-writer, who for centuries now has been examining the territory and verbalizing about it by making noises or various kinds of hieroglyphics; (3) the maps, or verbalizations of $Smith_1$ about the territory; (4) $Smith_2$, the reader-listener, who evaluates the maps made by $Smith_1$; and (5) the evaluations of $Smith_2$. His evaluations may fit the NOT-WORD relations, etc., in the territory. In this case, matters turn out in accordance with his "evaluations ("expectations," etc.), and $Smith_2$ has predictability. In the final analysis, his survival depends upon his predictability. When several million Schmidt's climbed out of the rubble in Berlin, they were in a position to understand clearly whether or not their evaluations of "der Fuehrer's" verbalizations (maps) fit the territory. They followed rainbows of words and found rockpiles at the foot of the rainbow.

Most (although not necessarily all) of the factors illustrated in Figure 1 become involved in any "educational" activity. For example, during a lecture, $Smith_1$ corresponds to the lecturer, and $Smith_2$ to a pupil. When a pupil is reading, the author of the ink marks plays the role of $Smith_1$ and the pupil, $Smith_2$. In each case, a pupil's evaluations take place under his skin at silent, and often unconscious, levels. Only occasionally do we get *hints* of the nature of his evaluations when we hear him verbalize, or see him engage in performances, about what he has heard or read. Of the great bulk of any pupil's evaluations we remain in ignorance. Part of an iceberg extends above the water. The greater portion lies beneath. In contrast, the entire "body" of a pupil's evaluations remains beneath the surface — under his skin. His verbalizations become only surface hints (poor reflections) that are often mistaken for the iceberg itself. Frequently a teacher may "understand" such pupil verbalizations even when the pupil himself does not. "The uttered part of a man's life," said Thomas Carlyle, "let us always repeat, bears to the unuttered, unconscious part a small unknown proportion. He himself never knows it, much less do others." The fact that educators in the main have not understood this illustrates one of the current delusions and becomes the basis for some of the most misleading verbalisms in 1950.

Further study of Figure 1 shows that *verbal activity can take place at two points*. First, $Smith_1$ (the teacher, author, etc.) in current educational practice certainly engages in verbal activity. Not much would happen in a typical school today if verbal activity on the part of teachers, administrators, etc. were eliminated. Investigations of verbalism in schools have, in the main, disregarded $Smith_1$ as a verbalizer.

Second, we have $Smith_2$, the topic of most discussions about verbalism—and, let me add, an important topic. We have to live with the $Smith_2$'s, who later turn out to play various roles as $Smith_1$'s, passing on the verbalizations we have given them.

We Are Governed by "Maps"

We can better understand how important the $Smith_2$'s can become when we realize that as members of the human class of life, *we are governed primarily by maps*. We do not attend Presidents' receptions in bathing suits in defiance of maps that "such things aren't done." "Cold wars," news of strikes, economic predictions, etc. make further emphasis on this point unnecessary. Morover, Korzybski has shown by a simple analogy what happens when a map does not fit the territory.

Territory	San Francisco	Chicago	New York
	•	•	•
Map	Chicago	San Francisco	New York
	•	•	•

Figure 2 (10)

When we follow such a map (Figure 2), we do not get where we want to go. Each of us has experienced at some time what happens when one of our maps does not fit the territory. Every "disappointment" turns out to be such a case.

For purposes of this discussion, I classify verbalisms as (1) cases where a map does not fit the territory, and (2) cases where we have maps for which no territory exists. Other categories could be listed, but space-time limitations make it impossible to deal adequately with even two categories.

Whether or not a map fits the territory cannot be ascertained by investigating the map alone. *One factor* that accounts for much of the verbalism in the past and even today is to be found in the limitations of the receiving equipment of $Smith_1$, the investigator of the territory. As far as I know, we have no knowledge outside of nervous systems. The receivers of a given nervous system (commonly known as 'senses') are not all-wave receivers. For centuries, man's receivers reported the earth as flat and the sun as coming 'up'. They did not report microbes or atoms. Man's auditory receivers do not pick up waves in the ultra-sonic band. In a similar way, each of the other receivers (olfactory, etc.) leaves out many details of the territory. Not all details are abstracted.

We smile now at some of the verbalisms that were produced before a few individuals became conscious of abstracting. Thus, mumps were accounted for by "mumpish evil spirits." "The brain is an organ for cooling the blood." "The earth is the center of the universe." "The velocity of light is 'infinite.'" And so on.

For centuries, anyone who questioned the current verbalisms paid with his life. Servetus, whom Calvin burned at the stake when he correctly described pulmonary circulation, lacked a microscope to demonstrate what our nervous systems leave out. Modern inquisitors, in Kremlins everywhere, are still on the march, for,

> man, proud man,
> Drest in a little brief authority,
> Most ignorant of what he's most assured,
> His glassy essence, like an angry ape,
> Plays such fantastic tricks before high heaven
> As make the angels weep.

Perhaps we should not smile too much.

Territory Changes

A *second factor* that makes it difficult to avoid using maps that do not fit lies in the fact that *the territory changes*. Heraclitus, the "obscure philosopher" of Ephesus, said as much over 25 centuries ago: "No one has ever been twice on the same stream, for different waters are constantly flowing down." In our own time, Whyte repeats: "Change is universal. Permanent elements may appear to challenge it, but they have no lasting substance. Yet, change is

not arbitrary. The future unfolds continuously out of the present." (19)

At the close of World War I, the best airplanes in the world were not as reliable as a Piper Cub. A *change* in the form of high octane gasoline made the modern giants of the air possible, and reduced verbalizations about Maginot Lines to anachronisms. Yesterday, DDT became the end-all for mosquitoes. Today, new mosquitoes transform the "end-all" nonsense into verbalism. It has been said that World War II was the first war in history that was "won" with weapons that did not even exist at the beginning of the war. Today, much atomic "knowledge" 1950 has become obselete. Doctor Oppenheimer recently said, "Until a few months ago, we thought there were three different kinds of mesons. Now we have seven. How many are there really?" (1)

Only a few weeks ago, an announcement by the President of the United States gave emphasis to what I have tried to say: "We have evidence that within recent weeks an atomic explosion occurred in the USSR." Previous maps no longer fit. They have become what I call verbalisms.

Some may conclude from what has been said that I plead the cause of "educational Heraclitians," to use Dr. Horn's terminology, who "jump to the conclusion that the social heritage should be discarded." (7, p 111) For those I give the answer well known to students of Korzybski: "I say what I say; I *do not* say what I do not say."

The distinguishing characteristic of the human class of life lies in the fact that it alone operates in a "time" dimension. (10) When we introduce a "time" dimension, we automatically introduce a "past," "present," and "future." The immediate moment gives us no dimension. Only the human class of life, with its capacity for comparing the present with the past can be conscious of change.

The profound effect of a social heritage that gives us *some* maps similar in structure to the territory they represent is forcefully illustrated by the work in atomic energy. Men who died possibly 6000 years ago—men whose names are not even known,—helped to make the first atom bomb possible. The man who first represented direction with a symbol (angle, degree, etc.)—who made a map similar in structure to some territory—was a co-worker in the field of nuclear physics. Much of what we "know" about electrons, neutrons, etc. is based upon the observation of certain effects in a Wilson Cloud Chamber. The *direction* of the "tracks" of the particles entering the chamber give clues about the nature of the charges (electron, negative; proton, positive; neutron, no charge, etc.) Thus the representations of our primitive forebear, who lived before the dawn of history, affects every living being on our planet today. So with each member of the class of life that lives in a "time" dimension. Each of use affects in some way the events that succeed us, including generations yet unborn. We become links in a chain reaction that leads ultimately to survival or non-survival. No one can count himself out, for, in a very real sense, each of us lives forever. We pass on maps—some that fit and some that do not. We can perish, clutching in our hands some portion of our social heritage, if we neglect the most urgent business of each generation: holding the maps that fit, and discarding those that do not. Perhaps at no time in history has it been so difficult to insure that our maps *do* fit. For "time marches on" with accelerating acceleration.

Signs and Symbols

A *third factor* that accounts for the widespread condition called verbalism may be found in the unique characteristics of "humans" that enables them to engage in language activity. Fido, cows, and amoebas do not engage in verbalism. "Humans" can hear talk and see ink marks, or, if blind, feel the Braille dots. They

can remember what they hear and see and then produce imitations. In short, they can talk and write and not drop dead the instant their maps do not correspond to the territory. On this point, Korzybski says; "If it (a sign) does not stand for something, then it becomes not a symbol *but a meaningless sign*. This applies to words just as it does to bank cheques. If one has a zero balance in the bank, but still has a cheque-book and issues a cheque, he issues a sign, because it does not stand for anything. The penalty for such use of these particular signs as symbols is usually jailing. This analogy applies to the oral noises we make, which occasionally become symbols, and at other times do not; as yet, no penalty is enacted for such a fraud. . .

"It is extremely important, semantically, to notice that not all the noises, etc., we humans make should be considered as symbols. . . Such empty noises, etc., can occur not only in direct "statements," but also in "questions." Quite obviously, questions which employ noises, etc., instead of words, are not significant questions. They ask nothing and cannot be answered. They are, perhaps, best treated by "mental" pathologists as symptoms of delusions, illusions, or hallucinations. In asylums, the noises, etc., patients make are predominantly meaningless, as far as the external world is concerned, but *become symbols in the illness of the patient.*" (10-pp. 78-79)

"Maps" Depend on Language Structure

The extent to which we can produce maps similar in structure to the structure of the territory depends upon the map making materials at our disposal. With a pencil and paper I can represent some characteristics of the terrain called Pennsylvania. With clay, or other modeling materials, I can produce a map of the same territory that I cannot possibly produce by making marks on paper with a pencil. So with language. A *fourth* condition, then, that may lead to the production of maps that do not fit (verbalism) lies in the structure of the language we inherit. Space permits only a brief and inadequate treatment of *some* of the structural characteristics of our language. To understand more fully the extremely complex issues that are involved, I suggest that the reader study *Science and Sanity*. Unfortunately, some "simplifications" of this monumental work do not simplify it; indeed, some contain many errors of omission and/or commission, and some make no sense.

When we examine the structure of our language, we discover that *it compels us to emphasize similarities but permits us to ignore differences*. Thus we can speak of "Germans" and behave *as if* Hitler equals Bach. So with "labor," "capital," "Republican," "Democrat," and so on. In mathematics, "the language of science," as Dantzig calls it, we do not perform such tricks. The mathematician who ignores differences by treating x_1 as equal to x_2 goes astray in his calculations. It appears, then, that we engage in verbalism the moment we neglect to take *both similarities and differences* into account when we make verbal maps.

A *second structural characteristic* of language permits us to fragment what cannot be broken up in nature. We can speak about "space" by itself and "time" by itself *as if* they could be separated. But when we abolish the hyphen in space-time, we abolish the Einstein theory. We perform a similar elementalistic operation when we speak of emotions *and* intellect. When someone splits off "personality" and begins to verbalize about "it" (minus a flesh and blood person), we are reminded of Alice's cat:

"All right," said the cat; and this time it vanished quite slowly, beginning with the end of the tail and ending with the grin, which remained some time after the rest of it had gone.

"Well! I've often seen a cat without a grin," thought Alice; "but a grin without a cat! It's

the most curious thing I ever saw in all my life." (3)

The additive *and* invariably gives us a verbal structure that does not fit the territory. Talk about eyes *and* ears *and* "spans," etc., in writings about reading, for example, often turns out to make no more sense than talk about arteries that is based upon the dissection of a cadaver. The ancient Greeks noticed that the arteries contained no blood after death, and so called them *arteria*: windpipes.

A *third structural characteristic* of language permits us to represent "qualities" *as existing in* things. We say, "The rose is red"; "The apple is sweet"; "She is bad"; etc. In these illustrations, the "red," "sweet," "bad," etc., are terms that refer to under-the-skin evaluations. Rose is not seen as "red" by everyone. The woman who is regarded as "bad" by the neighbor whose "angel" has just been chased out of the rosebushes is regarded as "good" by her own "angel." Nearly 300 years ago, Isaac Newton said, "If at any time I speak of light and rays as coloured or endued with colours, I would be understood to speak not philosophically and properly, but grossly, and according to such conceptions as vulgar people in seeing all these experiments are apt to frame. For the rays to speak properly are not coloured. In them there is nothing else than a certain power and disposition to stir up a sensation of this or that colour." (14)

The *is* of predication invariably represents an under-the-skin happening *as existing in* something outside the skin. Such projections can have consequences, perhaps the mildest of which is illustrated by the Quaker who said to his wife, "Everybody's queer but me and thee, and sometimes I think thee's queer." In extreme cases, our mental hospitals are full of people who confuse what is inside of skin with what is outside. They talk about rats where there are are no rats; they hear voices that no one else can hear; they see an "enemy" in everyone they meet. Their verbalisms differ only in degree from the verbalisms of the fellow who asks questions like these: "Why can't they all be just like me?"; "Is your education really liberal?"; "Is Willie's reading 'good' *or* 'thoughtful' *or* "effective"?" Unless we are conscious of the projection mechanism, the *is* of predication invariably leads to verbalism.

A *fourth structural characteristic* of language permits us to say that a *map equals* the *territory* it represents. The *is* of identity, found in our language, but not in all languages, permits us to do this.

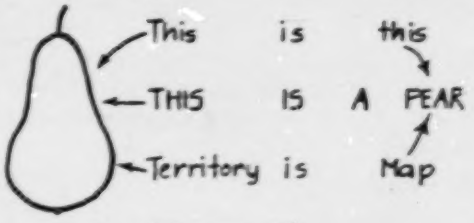


Figure 3

When we say, as in Figure 3, "This is a pear," we play *as if* a thing (territory: NOT-WORDS) could be *the same as* (*IS*) the *name* of the thing (MAP). We discover whether or not such statements fit, if, for example, we try to eat (2) in Figure 3. We can eat (1) but not (2). A map *is not* the territory.

We smile when children produce similar verbalisms. LaBrant has given us an instructive illustration: (12)

"For if the baby says 'mama or 'mother' he may later be confused. His cousin will arrive and call this woman 'Aunt Susie.' Here our baby will protest: 'She isn't Aunt Susie; she's mama.'. . .

"There's another. . .confusion that the child experiences and never completely outgrows. When Billy's mama comes along to visit, Billy calls *her* 'mama.' Johnny feels called upon to say, 'She isn't mama; *this* is mama.' We've all seen children wrangle over that."

Perhaps we should not smile at the infants

too much, for who has not heard "grown-ups" engage in similar infantile behavior? "Schmidt *is* an Aryan."; "This *is* democracy."; "*Is* it really a strike?" "*Is* General Semantics 'English' or 'education' or 'psychology'?" We know by now what happens when we behave *as if* a map *is* the territory. Or have we forgotten Hitler and his "Aryans" and the concentration camps?

A recent happening shows what can happen when we disregard the dangers in the *is* of identity. (See also Lt. Gen. Walter Bedell Smith's article in *The Saturday Evening Post*, December 17, 1949)

"Moscow, March 27, 1947—(UP)—The Big Four foreign ministers were threatened with a deadlock today on the question of German assets in Austria, key to the whole Austrian treaty... Throughout the day, progress in the Big Four conference was blocked by disagreement over what constitute 'German' assets in Austria."[1]

The treaty is not yet signed. The problem cannot be solved by shouting or by looking for "interpretations" of *assets* in a dictionary.

Such difficulties arise when different Smiths apply different maps to the "same" phenomena. Thus, an American Smith may say, "Beefsteak *is* food." Some Hindoo Smiths most certainly will not. Our language behavior reverts to infantile verbalism, with the possibility of most dangerous consequences when we disregard the map-maker. The maps do not make themselves.

We may use the term, *static*, to describe a *fifth structural characteristic* of language. I have already referred to the changing character of territory. The following illustration emphasizes the potential danger in a failure to understand the static nature of language.

At the close of the war, a Board of Consultants to the Department of State published a report on The International Control of Atomic Energy. The report recommends that atomic energy activities be divided into two classes: (1) *Safe* activities, which may be carried on by individual nations without control and (2) *Dangerous* activities, which may be carried on only under international control.

The following sentence shows a keen awareness of the hidden dangers in a static language: "Only a constant re-examination of what is sure to be a rapidly changing technical situation will give us confidence that the line between what is dangerous and what is safe has been correctly drawn; it will not stay fixed." (4)

It will not stay fixed. The dynamic relations in the territory change. They cannot be bound in the straight jackets of a static language. Unlike our hair, words do not turn gray with age, but by dating our statements we build dynamic maps that fit dynamic territories. Safe activities 1946 may not be safe in 1950.

"Words, in fact, are like the fossils of the rocks; they embody the thought and the knowledge of the society that first coined and used them... If," continues Sayce, "the fragment of a fossil bone can tell us the history of an extinct world, so, too, can the fragment of a word reveal to us the struggles of ancient societies, and ideas and beliefs that have long since perished." (17)

Of the many structural characteristics of language that remain, I can mention only a *sixth*. With a generous use of words like "all," "never" (and many others), and with lots of periods after sentences to show that we have permanently closed the subject, we can use our maps *as if* everything has now been said—period and stop. We can do this despite the fact that in 1951 we have not succeeded in saying "all" about *even one atom*. A map represents *not all* of the territory.

Other Conditions Favoring Verbalism

So much on the structure of the map making materials at our disposal. Let me now turn

[1] Quoted from *The Pittsburgh Post-Gazette*, March 28, 1947.

to a *fifth class* of conditions or practices that encourage verbalism. Broadly considered, these practices include many of the administrative and methodological usages now in vogue. The reader is urged to study Dr. Horn's excellent volume, *Methods of Instruction in the Social Studies*, for a penetrating analysis of many practices with which I will not deal.

Educators base their claims for public support on the grounds that schooling produces desirable behavior patterns in students. If the 'products' of educational systems leave schools with behavior patterns that are widely recognized as detrimental to society (including the 'products'), then we may well consider seriously what we have done to them. The researches of Pavlov, Thorndike, and many others clearly show that behavior patterns do not persist unless the conditions are favorable for their development. I believe many methodological practices provide a favorable "climate" for the growth of verbalism.

First, although a *teachable methodology* for dealing with map-territory relationships is available, it is less than twenty years old, and relatively few schools know about it. As a consequence, "speech" instruction, by way of illustration, still focuses attention almost exclusively on $Smith_1$, notwithstanding the fact that *without* $Smith_2$ speech seldom happens outside of institutions for the insane. Attention is centered on "speech" *production*, such as lisping, stuttering, poise, melodious voice and so on. Talking in well-modulated tones may be regarded as highly desirable, to be sure, but talking "sense," or making maps that fit, may turn out to have greater survival consequences. English instruction shows a similar disregard for $Smith_2$, who, in a world of tensions may need some defenses against the barrages of talk and ink marks.

Second, prevailing teaching procedures are almost exclusively verbal. In commenting on the over-emphasis on linguistic learning, Prescott says, 'almost from the beginning of the first grade through the university, verbal symbols are substituted for sensation, perception, observation, and activity with regard to life's events. The situation in this respect is not as bad as it used to be, for increasing numbers of school people are seeing the light, but it is still very bad if one views the country as a whole!. (15)

In this connection, it may be well to remember that the introduction of 'concrete' materials, while desirable, is not a guarantee against verbalism. Men, with their feet planted firmly on 'concrete' ground, long talked about a flat earth.

Recent writers have persuaded themselves that they can distinguish between 'informative' and 'emotive' expressions *by looking at the words*. I am afraid, however, that such determinations can be made only by looking at $Smith_2$. A writer on General Semantics seems to have persuaded himself that he can pick out "slanted" words. Others propose to determine what a word represents by examining the other *words* surrounding it (otherwise known as 'context'). Such activities turn out to be completely verbal.

Third, we have as yet few, if any, teaching materials that can be considered satisfactory from the point of view of language structure. The earliest books placed in the hands of children use the false-to-fact *is* of predication and the *is* of identity in varying degrees. Texts are uniformly written in an *all*-ness pattern that leaves pupils with a mistaken notion of finality. The typical textbook gives no clues regarding the dates to which the subject matter applies. Even photographs in many textbooks are frequently undated and often give erroneous impressions because of changes that have taken place in the territory. The copyright date provides, in many cases, an inaccurate clue regarding "time." I recently analyzed a number of general science books widely used in junior high schools —all published since 1930. None

of these books presented an accurate (1951) account of light phenomena or thermodynamics. *The phlogiston notion of "heat," which has been obsolete since Lavoisier's famous experiments in 1772 is still being taught, almost universally, in early science courses.*

I have considered at length elsewhere (2) a fourth methodological factor that encourages the increase of verbalism. Many school practices involve a reversal of natural order, or timing. There is nothing "bad" about symbolization as such. However, in the development of language in the individual and in the race we find an order that is commonly disregarded in our schools. For example, when we trace the history of writing and reading, we find that for thousands of years reading involved exclusively the visual receiver. It had nothing to do with sounds. *Historically, natural order in reading and writing involved visual pathways in nervous system first and continued to do so for thousands of years.* Neurologically, this becomes a matter of greatest significance, for the order of development parallels the order of development in the individual nervous system. Korzybski has shown that "auditory stimuli involve more inferences than descriptions, which is the opposite of the functioning of the visual type." If inferences rather than descriptions are involved, we naturally deal with higher abstractions first." (11. p 460)

The cortex, which *provides the neurological structure for higher order abstractions*, reaches full development *last*, both in the race and in the individual. We would therefore expect the earliest steps in writing (and reading) to involve lowest order abstractions (visual) as a corollary to relatively immature cortical development. Indeed, the alphabet, providing an *auditory* basis for reading, and therefore higher order abstractions, was the latest development in the history of written languages. In fact, many languages, even today, have not yet reached the alphabet stage. Yet, we find in almost universal use in schools today an auditory approach in beginning reading. We reverse a natural order *by teaching first the last thing learned by the race.*

The speech of the congenitally blind develops late. They can hear the words, *but they cannot see the territory.* This fact should not be disregarded when we teach students to read, whether it be in first grade or in graduate school. Verbalism must be regarded as a symptom of reversed order, harmful in principle as Korzybski has shown:

"Obviously, then, the auditory types are more enmeshed by words, and further removed from life than the visual ones, and so cannot be equally well adjusted. This fact should not be neglected, and on human levels we should have educational methods to train in visulization, which automatically eliminates harmful identification. . .

"In pathological states, such as identifications, delusions, illusions, and hallucinations, there seems to be involved a translation of *auditory* semantic stimuli into visual images. In these pathological cases the order of evaluation appears as label first and object next, while the adaptive order seems to require object first and label next. . ." (10, pp 459-460.)

Patterns and Precedent

Any attempt to account for the prevalence of a behavior pattern in schools and in society at large, such as verbalism, should, in my opinion, consider the effect of a *sixth factor*, which I call "pattern," "precedent," or example. For a number of years, I have been collecting illustrations, some of which do not make pleasant reading. Nevertheless, something may be learned from an examination of cases.

All over the country today we are engaged in changing the titles and numbers of courses in college catalogs, a process referred to as curriculum "revision." One has only to read some history of curriculum "revision" to discover the

tremendous amount of sheer verbalism that is released on the occasions of such periodic spasms. It should not be understood that I oppose *genuine* revision; on the contrary, I am convinced we must have it. However, it is possible that any fundamental revision of the curriculum in 1951 would force use to close the doors of many of our colleges. Who would teach the revisions?

A current "reviser" is advocating a social studies program that will teach college students to break a slice of bread into four pieces before eating it. This and other trivia in an atomic age!

In one proposed list for "general" education (I am never sure that I understand the difference between just ordinary and "general" education), everyone would be compelled to take music, whereas (again in an atomic age) not even one course in elementary mathematics is suggested.

In the year that produced the Hoover Commission Report (19 volumes that required several years of work by several hundred experts on government), one proposal for "general" education would eliminate a course in American Government and replace it with a hodgepodge called "citizenship" (don't step on the rose bushes, etc.).

Other verbalizers are calling for more 'Aristotle" (the great philosopher who, despite his greatness, nevertheless *mistakenly* believed that women have more ribs than men). In the proposals for "general" education, I have yet to see one that has not been tried before, then later "revised" *out* of the curriculum, and is now being "revised" *in* again.

Many of the object-lessons-in-behavior that we supply in our personal contacts with students may have even more devastating effects. The head of a school system—a great exponent of "character"—who awards the contract for school coal to the bidder who will furnish him free coal gives at the same time the most effective lesson in verbalism.

One great verbal exponent of democracy fired one-fourth of his faculty in a three year "purge." Another Kremlin "democrat" intimidated many members of his faculty into changing their registrations at election time and conducts a student spy system. His local Lysenko's record certain lectures on wire recorders to make certain that every student in the department gets the "facts" in a "democratic" way. The ancient precept of Sophocles—

> Do not persist, then, to retain at heart
> One sole idea, that the thing is right
> Which your mouth utters, and nought else beside.

—gets scant hearing in such a "democracy."

"Let thy great deeds be thy prayer to thy God." I have forgotten who wrote the line. It makes little difference, but it accents a solemn obligation for all of us who presume to teach our fellow men. Honest "sincere" people can and do make maps that do not fit. Slowly, we are coming to realize that to deal with some of the issues will require, to use James Harvey Robinson's terminology, "an unprecedented attitude of mind" and the use of "unprecedented knowledge." (16) In the race between "education and catastrophe," there is little time in which to teach oncoming generations a survival methodology for dealing with language. In this task our most effective educational tool will be example. Emerson has given us the map:

"Do not say things. What you are stands over you the while, and thunders so that I cannot hear what you say to the contrary."

Bibliography

1. Barnett, Lincoln, "J. Robert Oppenheimer," *Life*, October 10, 1949, p. 123.
2. Bontrager, O. R., *Some Neglected Considerations of Order in Current Reading Meth-*

odologies. Lakeville, Connecticut: Institute of General Semantics, 1947.

3. Carroll, Lewis, *Alice in Wonderland*.
4. Department of State, *A Report on the International Control of Atomic Energy*, p. 26. Washington: Department of State Publication 2498, March 16, 1946.
5. Flexner, Abraham, *Universities, American, English, German*. New York: Oxford University Press, 1938.
6. Horn, Ernest, *Methods of Instruction in the Social Studies*. New York: Charles Scribner's Sons, 1937.
7. Hughes, Charles Evans, (quoted from Lee, Irving, *Language Habits in Human Affairs*, p. xv New York: Harper and Brothers, 1941.)
8. James, William, *Talks to Teachers on Psychology*, p. 150. New York: Henry Holt and Co., 1899.
9. Judd, Charles H., *Educational Psychology*, pp. 163-64. New York: Houghton, Mifflin, 1939.
10. Korzybski, Alfred, *Science and Sanity: An Introduction to Non-Aristotelian Systems and General Semantics*. (First edition, 1933; 2nd, 1949; 3rd, 1948). International Non-Aristotelian Library Publishing Co., Institute of General Semantics, Lakeville, Connecticut, Distributors.
11. Korzybski, Alfred, *Manhood of Humanity*. New York. E. P. Dutton and Co. 1921. (Presently out of print. New Edition in process to be published by the Institute of General Semantics.)
12. LaBrant, Lou., *A Genetic Approach to Language*. Lakeville, Connecticut: Institute of General Semantics, 1949.
13. Lee, Irving, *Language Habits in Human Affairs*, p. 114. New York: Harper and Brothers, 1941.
14. Newton, Isaac, quoted from Sullivan, J. W. N., *The Limitations of Science* p. 137. New York: The New American Library, 1949.
15. Prescott, Daniel A., *Emotions and the Educative Process*. Washington: American Council of Education, 1938.
16. Robinson, James Harvey, *The Mind in the Making*, p. 5. New York: Harper and Brothers, 1921.
17. Sayce, A. H., (quoted from Goldberg, Isaac, *The Wonder of Words*, p. 20. New York: D. Appleton-Century Co., 1938.
18. Smith, Lt. Gen. Walter Bedell, "Falsehood: Russia's Sharpest Weapon." *Saturday Evening Post*, Dec. 3, 1949.
19. Whyte, Lancelot Law, *The Next Development in Man*. New York: Henry Holt and Co., 1948.

Reading and Understanding

WILLIAM S. GRAY[1]

The preceding sections of this report have directed attention to the large amount of verbalism that prevails today in many school activities and to the practices that contribute to it and often make it inevitable. They have also identified the conditions under which clear concepts can be acquired and rapid growth made in the accurate interpretation and use of language. The purpose of this chapter is to consider the problems faced in promoting a clear grasp of the meaning of what is read and in increasing understanding through reading.

The Importance of the Problem

The development of ability to read with understanding has always been a challenging task. Because of the increasing demands made on readers during recent years the responsibility faced by schools in this connection was never greater. The fact is widely recognized that reading can make its largest contribution to personal development and social progress only as children and youth acquire a high level of efficiency in understanding what is read. The responsibility for needed stimulus and help rests heavily upon teachers in both elementary and secondary schools. Efficient guidance requires a clear recognition of the nature of the reading act, the steps involved in interpreting what is read and persistent effort in helping each pupil advance in harmony with his unique characteristics and needs.

The need for a vigorous attack on reading problems is further emphasized by the fact that thousands of boys and girls are unduly retarded in reading or present unusual handicaps. As a result they secure only vague, or even wrong, concepts through reading. They also use orally or in written reports the words of the selections read with little or no real understanding of their meaning or significance. As a result they are thwarted in their effort to do satisfactory school work. Teachers are not only keenly aware of but are baffled by the presence of such pupils in their classes and are eagerly seeking help in solving the problems they present.

To meet the varied needs described above is the responsibility of an adequate reading program. (12) For pupils who are progressing normally, developmental training in reading should be provided which promotes growth in the increasingly mature reading attitudes and skills required at successive levels of advancement. For thousands of boys and girls who fail for one reason or another to read as well as they should, in terms of their ability to learn, special help should be provided that is adapted to their needs. For those who experience unusual difficulty in reading, provision should be made for a thorough diagnosis and for appropriate therapeutic and remedial measures. Because of the limited space available, it will not be possible to discuss separately the problems faced by each group in acquiring real competence in understanding what they read. The plan has been adopted rather of considering factors, difficulties and procedures that apply to all.

Basic Facts Relating to Understanding in Reading

In seeking to improve pupil efficiency in the understanding of what is read, three basic facts should be kept in mind. The first is that reading is essentially a process of interpreting language. Just as a good listener interprets the language of the speaker so the good reader interprets the language of the author. In a series of research studies carried on by Horn (7) and his coworkers, it was found that a child in the higher

[1]Professor of Education, the University of Chicago.

grades who cannot understand what he reads often does not understand the same passage when it is read to him. They also found that as a child matures his ability to understand what he reads improves. On the basis of all the evidence secured Horn concluded that a major cause of the current failure in reading is inability of many pupils to interpret language readily. From this point of view the problems faced in promoting increased understanding in reading are integral parts of the broader problem of developing increased ability in interpreting language.

The fact merits emphasis that a child's comparative mastery of oral and printed language varies at different levels of school progress. As pointed out by Hughes and Cox (9) first-grade children often use sentences and forms of expression that are more mature than those commonly used in beginning reading books. This is as it should be because experience shows that progress in beginning reading is more rapid when the words and forms of expression used are in the child's vocabulary and relate to familiar experiences. Shortly, however, the language of the books read becomes more mature than that used by the child in such respects as range of vocabulary use and length and complexity of sentences. Before a child can understand the meaning of such passages, he often needs help in interpreting the new language forms used. If the activities of the reading period are properly conceived and directed the child not only acquires new concepts and broader understandings but grows also in his acquaintance with and mastery of the more mature language patterns involved.

The second basic fact is that the extent to which one can associate meanings with written or printed forms is a matter of experience. This implies that the words of a passage do not convey meanings to the reader directly. They are the source of stimuli which lead to the recall of previous items of experience. If they are accurately recalled and related, he may secure the meaning which the author wished to convey. To the extent that the reader has not had relevant experience he faces serious difficulty in securing a clear grasp of meaning. Either appropriate experiences must be provided in advance or the reader must be trained to identify clues to meaning in the passage or to secure help from supplementary aids, such as the dictionary. The great importance of appropriate previous experience and an adequate meaning vocabulary is shown clearly by the high correlation (6) between the size of a reader's meaning vocabulary and his ability to understand what he reads.

But reading and experience are related in another way. When a child reads a passage containing familiar words and concepts which are presented in new relationships, he may acquire new experience. When he reads, for example, that parts of Greenland are always covered with "ice" and "snow," he knows the meaning of the words "ice" and "snow" and has acquired some sense of the meaning of "always." When he puts these familiar ideas together in the order indicated an experience results which is new and illuminating. Of great importance is the fact that children can greatly extend their experiences and broaden their range of understanding in this way. Reading as well as concrete experience may thus enrich their background and prepare them for understanding an increasingly wide range of materials.

The third fact that merits emphasis is that the understanding of what is read involves thinking of a high order. As implied in the preceding paragraph the good reader does more than recall appropriate meanings. He also fuses these meanings into the sequence or pattern of ideas intended by the author. According to Thorndike, (15) this is an elaborate and complex mental process. It involves "a weighing of each of many elements in a sentence," "their organization in their proper relations one to

another," and "the selection of certain of their connotations" and "the rejection of others." After analyzing what is involved in answering questions about simple paragraphs, Thorndike concluded that this step involves "all the features characteristic of typical reasonings." Concerning the reading of explanatory or argumentative paragraphs in textbooks and even of narration or description, he found that it involves "the same sort of organization and analytical action of ideas as occurs in thinking of supposedly higher sorts."

Sources of Difficulty in Acquiring Meaning Through Reading

Attention is directed next to the common sources of difficulty in acquiring meaning through reading. As pointed out by Horn (7), they may be classified under three main headings. Because they have been discussed at length in other reports (4) they will be reviewed very briefly in this chapter.

Of basic importance is the nature of the concepts and understandings to be secured. If the materials read by a pupil present ideas that are both simple and familiar, they are usually apprehended quickly and accurately. If, on the other hand, they are "new, inherently difficult, and remote from the reader's experience," he will encounter difficulty in grasping them even though they are written in language that is simple, clear and lucid. In reading such material "the selection of pertinent elements from one's past experience, the gathering and evaluation of new data, and the organization of new and old ideas into an adequate construct takes time, skill and reflective effort." (7-p. 157) Unfortunately many of the concepts presented in textbooks and courses of study "are not only too difficult but also too numerous to be mastered" by many of the pupils to whom they are assigned. The solution lies, in part, in the better selection of reading materials in terms of the present ability and level of maturity of the pupils. Equally important is the responsibility at all grade levels of training and guidance which promote increasing ability on the part of the pupils to secure the meaning of relatively difficult materials through independent effort.

A second source of difficulty relates to the way in which ideas are expressed. Even very simple ideas are often presented in language which is difficult to understand. Some of the more obvious causes of difficulty are: failure of the author to understand the needs and limitations of his readers and to define explicitly the ideas to be conveyed; "omission of necessary relevant details, and the inclusion of unnecessary irrelevant details" (7-p. 160) and the use of a style and vocabulary unsuited for those to whom it is assigned. At least two steps are essential in reducing or eliminating such difficulties. The first is the selection or preparation of material which in terms of the language used is adapted to the present ability of the pupils to understand. The second is systematic guidance in which pupils become gradually acquainted with various types of presentations and grow in ability to grasp the meaning of increasing complex and involved kinds of writing.

A third source of difficulty is inherent in the limitations of the reader. No matter how simply and clearly a writer may present ideas, he does not convey the same ideas to all members of a group. Furthermore, pupils differ widely in their ability to interpret what is read. This is due to differences in personal attainments and characteristics such as mental capacity, ability to read, nature of their interests, motives and drives, their background of experience and their command of language. (7-p. 172) Because of the great importance of such factors in acquiring clear concepts and broad understandings in reading, it is necessary for teachers to study each pupil carefully and adjust to or overcome personal difficulties and limitations in efforts to improve their efficiency in reading.

The discussion thus far has emphasized the great importance of reading with understanding. It has pointed out the fact that reading is essentially a process of interpreting language that requires an adequate background of experience and a high order of thinking. It has also pointed out three main causes of difficulty in acquiring meaning through reading, namely, the inherent difficulty of the concepts presented, the nature of the language used, and the characteristics of individuals which limit understanding. With these facts in mind, the procedures involved in promoting growth in understanding through reading will now be considered.

Promoting Growth in Understanding

As implied earlier, it is not an easy task for children to engage effectively in all the kinds of reading in which they do and should engage. Neither is it a simple task for teachers to promote the development of all the attitudes and skills needed by pupils in acquiring clear, accurate concepts and essential understandings as they read. In order to sharpen the issues and to make the suggestions as concrete and specific as possible the discussion that follows will deal, first, with common requisites for the efficient teaching of reading, second, with the problems involved in promoting growth in understanding in various aspects of interpretation, and third, with adjustments needed in achieving specific purposes.

Common Requisites for Efficient Teaching of Reading

Of basic importance is the fact that children should have strong motives or specific purposes for reading that appeal to them as significant and worthwhile. Such motives provide the stimulus and inner drive that enable a child to engage wholeheartedly in reading specific materials. A closely related requisite is that the child should read with his mind intent on meaning. (10) Observations show that a good reader demands meaning as he reads. This attitude, or mental set, focuses attention on the content of a passage, insures the arousal of a maximum number of meaning associations and aids in anticipating the sequence of ideas presented.

In order to provide these common requisites, teachers create a stimulating, provocative classroom environment, arouse keen interests and curiosities among pupils and aid them in discovering problems which they delight to solve through the use of reading and other aids to learning. Children who approach reading with challenging purposes or anticipated pleasures in mind and who become absorbed at once in the content of what they read are launched, as a rule, on a valuable learning experience.

Securing the Literal Meaning of What Is Read. The first requirement in all good reading is to secure the literal meaning (3) of a passage. By this is meant that aspect of meaning which is usually referred to when the reader is asked "What does the passage say?" To read well at this level is prerequisite to any broader understanding of what is read. It includes the accurate perception of words, the fusion of separate meanings into ideas, and a clear grasp of their relationship and organization. For the purpose of this discussion, some of the teaching responsibilities faced will be discussed at two levels.

a. In Reading Very Simple Passages

Let us assume that pupils in the early grades are reading passages that relate to familiar experiences and are expressed in words and language patterns with which they are already familiar. As they read with their minds intent on meaning, their first problem is to distinguish one word from another, that is to know that a given word is "boy" and not "toy." As words are thus identified the meanings previously associated with them are recalled. Because of the great importance of these basic steps teachers should be on the alert at all times to identify pupils who confuse word forms or fail to at-

tach appropriate meanings to them. Much reteaching is often necessary before pupils are ready to read even very simple passages without help.

As meanings are associated with one word after another, they are fused into a chain or sequence of ideas. In taking this step the good reader holds in suspense the various meanings aroused until the total meaning intended is recognized. Thus in reading the sentence, "The boy hit the ball," the meanings of the successive words are held in mind until the word "ball" is recognized and the complete idea expressed by the sentence is grasped. This characteristic of good reading makes it possible to accept or modify the meanings recalled for particular words before a decision is reached concerning the total meaning of a given sentence or longer passage. Studies made by Thorndike (15-pp. 323-32) led him to conclude that good thinking is essential at every step in securing a clear grasp of the meaning of a passage. The pupil must select, reject, emphasize, relate and organize as the search for meaning goes forward. Efficiency can be promoted by teachers through well-directed discussions and pointed questions relating to the content of what is read.

b. In Reading More Difficult Passages

As pupils make progress in learning to read the passages assigned relate increasingly to things and events which lie outside the realm of familiar experience. Furthermore, the vocabulary and forms of expression used are often equally unfamiliar. As a result new problems arise. They must be met effectively if pupils are to secure a clear grasp of the meaning of what they read. At least four of the types of problems faced will be considered.

Background of Experience. Of basic importance are difficulties in securing meanings which are due to the fact that some or many of the ideas included lie outside the child's range of experience. Before assigning materials of this kind efficient teachers review its content in the light of the pupil's present experiences. If new concepts and ideas are involved they determine what additional experiences pupils need in order to understand them clearly. If only a limited amount of new experience or information is needed, steps are taken to supply them during the assignment period by relating pertinent incidents, showing pictures or slides, and clarifying vague or hazy ideas. Oftentimes a more extended background should be developed. To this end, projects are undertaken, a field trip organized, or a film presented which extends and enriches experience in pertinent directions. The value of any such activities is increased as the new ideas presented are discussed freely, concepts clarified and appropriate words added through use to the oral vocabulary of the pupils.

The need for providing pertinent experience extends from the kindergarten to the university. The value of appropriate steps was demonstrated by Doris Waters (16) who studied the types of experiences that her kindergarten pupils needed in order to be able to read and understand the content of the readers they would use in the first grade. She then organized projects, such as "a farm project" and "a circus project" which aimed to provide experiences in these areas that were specifically needed in order to read with understanding in the first grade. The importance of a meaningful background was further emphasized as a result of an experiment by Chall (2) with sixth-and eighth-grade children. She concluded "We must continue, in our reading programs to teach the reading skills directly; but we must, in addition, supply a background for the reading to become meaningful."

Meaning Vocabulary. As pointed out earlier the extent of one's meaning vocabulary is more closely related to comprehension in reading than any other factor studied thus far other than intelligence. When the materials assigned

contain too many new words and concepts pupils at all levels of advancement are blocked in their effort to grasp the meaning of what they read. A first step is to assign materials which are properly adjusted in respect to meaning vocabulary to the level of advancement of the pupils. The second step is to provide the training and guidance needed to insure the continuous enrichment of meaning vocabulary and the development of the attitudes and skills essential in identifying the meanings of new words independently.

Of large importance in enriching meaning vocabularies is the school and classroom environment in which pupils carry on learning activities. Evidence to this effect was secured years ago by Bonser, Burch and Turner (1) and has been reaffirmed many times since. Through the use of tests they compared the efficiency of the pupils in two schools in meaning vocabulary. Careful study of various possible factors led them to conclude that the school which ranked highest was superior in the following respects: (1) "Its subject matter was intimately and vitally related to everyday life—the school work gives meaning and understanding of the daily activities of which the child himself is a part." (2) Because preparation and study on the part of the teacher is required daily she is kept "fresh and alive in the development of the work." (3) The work calls "for initiative and constant effort on the part of pupils comparable to that called forth by play and home life." (4) The problem method of teaching necessitates "clear, purposive thinking on the part of both teacher and pupils" in which skill and effectiveness are developed in reading and study. (5) Because the issues studied are of vital concern to the pupils their search of meanings is vigorous and "their expression is spontaneous, free and adequate."

After a favorable learning climate has been developed it is necessary to give specific attention to the development of word meanings. In an elaborate study, Gray and Holmes (4) found that pupils were unable to recognize accurately their needs and deficiencies in respect to word meanings. The investigators then sought to determine the relative effectiveness of direct and incidental methods of promoting vocabulary growth. After selecting comparable experimental and control groups at the fourth-grade level they developed similar procedures in teaching each unit to both groups excepting with respect to word meanings. In the experimental group, the teacher gave specific attention to new and unfamiliar words helping pupils through a study of the context and the use of illustrations, pictures and other devices to secure a clear grasp of the meaning of words as used in the passages read. The words were also used freely in classroom discussion and often in written reports. In the case of the control group the teacher provided no help in word meanings except as individual children asked for it. Intensive studies of the progress of the pupils showed that the experimental group not only made significantly greater growth in meaning vocabulary but also in oral and silent reading achievement, in spelling, and in the richness and accuracy of the vocabulary used in oral and written reports.

From these and scores of related studies striking evidence has been secured of the value of a stimulating environment, of the use of reading materials containing vital content, and of specific attention to word meanings in promoting growth in understanding what is read. To this end good teachers everywhere make use of a variety of techniques depending on the level of advancement of their pupils. In the earliest grades they introduce words into reading lessons only after vivid meanings have been associated with them in oral conversation. As pupils advance time is often reserved in discussion periods preceding reading to introduce new key words and, by means of discussion,

pictures and other devices, to associate appropriate meanings with them. As the reading proceeds, use is made of both the picture and verbal text in determining the meanings of words appropriate to the context. At a still more advanced level attention is directed to the meanings of prefixes, suffixes and roots, and skill developed in identifying the parts of words that form meaningful units and in applying them in the recognition of new words. Beyond the primary grades thorough training is provided in the use of dictionaries and other sources of information. The ultimate goal is capacity on the part of each pupil to use easily and effectively all aids to meaning that will help him in enriching his understanding of a passage.

Language Patterns. Most materials that are written in harmony with certain grammatical, rhetorical and logical principles. At the beginning stages of reading the materials read are so simple that they fall within the everyday language patterns of the pupils and are easily understood. As pointed out earlier, however, some of the sentences included in more advanced reading lessons are more complex, more mature in pattern or at least different from those used by the child in his daily conversation. Unless help is provided in such cases he will be blocked in his effort to understand what he is reading. This was clearly illustrated in the case of a boy from a German-speaking home who met with great difficulty in grasping the meaning of assigned materials. Questioning by the writer brought forth the explanation that "the book didn't say it as we say it at home." Further study of his difficulty showed that he was usually blocked when the order in which the ideas were presented in an English sentence differed significantly from that in German.

The foregoing example sugggests only one of many types of language difficulties which children may encounter in reading. Experience (14) shows that they are blocked by any unusual arrangement of words that delays "the forward movement of the thought" they are seeking to grasp. They are confused by tricky types of sentences beginning with "it" and "there," by "long parallelisms, particularly if some of the parts are elliptical," by "long modifying clauses placed loosely in the sentence," and by poetic inversions of various kinds. Furthermore, "pronouns can trip the reader disastrously if they are carelessly set too close to meaningful nouns other than their antecedents," poorly organized materials are definitely discouraging to the reader; and figures of speech often result in distorted notions of the ideas in the passage. These and many other difficulties of form and structure assail the immature reader on every hand and prevent him from securing a clear grasp of meaning.

As a result of classroom experience and experiments at least three conclusions have been reached concerning ways of helping pupils grow in ability to interpret passages that use relatively mature language forms. The first is that the technical study of grammar and rhetoric in which elements are merely identified and labelled is of little value. (5) The second is that difficulties in understanding due to elements of form and structure demand attention. For example, the ideas contributed by specific groups of words (clauses), the word to which a given pronoun refers and the meaning implied by a figure of speech should often be discussed pointedly with individuals or groups. When a specific difficulty is under discussion several sentences presenting similar problems of interpretation may be placed on the blackboard and examined to advantage. It is helpful also to have the children seek for other examples in their books and to consider the meaning of the sentences in which they appear. Two results of such training should be a growing sensitiveness to the function of various parts of sentences and paragraphs and the habit of attacking such

trouble spots when reading in an inquiring, thoughtful manner.

Of large importance also, according to Salisbury (14-p. 93) is "the creative construction of original sentences in free composition." The pupil who is composing pretends that he is also the reader and "challenges each sentence to be sure that it actually says what he means it to say." In his effort to attain economy and clarity in the expression of ideas, he revises, modifies and changes. As the pupil's "own power of building mature sentences increases," he "acquires added skill" in interpreting increasingly complex and difficult sentences and paragraphs. It is obvious that growth in reading is thus closely integrated with growth in the other language arts. Progress is attained through carefully directed effort in various speaking, listening, writing and reading situations that are highly motivated.

In light of the foregoing discussion, it is apparent that promoting growth in ability to secure the sense meaning of a passage is a very challenging task. Whereas the teaching problems involved are most conspicuous in the beginning stages of learning to read they demand attention at every level of advancement from the kindergarten to the university.

Securing Additional Meanings and Implications.

But a good reader does more than grasp the literal meaning of a passage; he is also alert to the broader meanings inherent in what he reads. (3-pp. 65-70) This involves what is often called reading "between" and "beyond" the lines. Failure to read in this broader sense explains why pupils at most levels of advancement do not acquire the breadth and depth of understanding expected of them. Unfortunately the training given in many schools does not develop as fully as it should the understandings, attitudes, and skills essential. For the purposes of this discussion they will be grouped under four headings.

The Kind of Material Read. Of primary importance is the fact that selections and books are written for different purposes and are cast into different forms, such as news accounts, short stories, directions for doing things, lyric poetry. In order to secure the kind of message that a selection was written to contribute, a good reader recognizes the type of material at hand, its special purpose, and the things he should look for in reading. A child begins to grow in this capacity early in the grades as he learns to distinguish between story and facutal material. Through carefully planned guidance and class discussion he very soon discovers what each type of material contributes and the things to look for in reading. His ability increases in the middle and upper grades as he reads varied types of stories, literary selections, and materials in textbooks. Through the guidance provided pupils grow rapidly in ability to identify the types of material they are reading and the kinds of questions they should ask as they read. Such understandings, attitudes and skills are of great importance in securing the broader meaning of a passage.

The Writer's Purpose, Mood and Tone. Closely associated with a clear recognition of the kind of material read is ability to identify the author's purpose and tone. (13) At times the author states his purpose directly. Often he leaves to the reader the task of inferring the purpose of a selection from the general form in which it is written, the approach that he makes to his topic and his use of language. For example, in writing a booklet entitled "A Day with Alice in England," the author may be intereseted chiefly in telling a story about Alice and the kind if girl she is. On the other hand, the purpose may be to discuss the conditions that prevailed in England at some period in history. If the reader secures the kind of insights that the story aims to contribute he must recognize at once which of these purposes guided the author in writing the article.

Growth in ability to adjust one's reading to the author's purpose results from carefully planned guidance through the grades and high school which promotes increasing ability to recognize the author's purpose and the kinds of questions he should ask while reading to insure a clear understanding of the message intended. Equally important is directed study which enables pupils to recognize the author's mood when writing (happy, sarcastic) and his attitude toward the reader and the things he is writing about.

The Meanings Implied But Not Stated. The good reader not only recognizes the ideas actually presented but also those that are implied but not stated. This includes recognizing the things purposely left unsaid for effect, seeing implications, recognizing consequences, drawing inferences from the facts presented and recognizing the conclusions to which the facts presented point. Ability to interpret in these various ways is essential to a clear understanding of a passage. Children grow in ability to grasp implied meanings as teachers center attention upon examples of such meanings in reading materials and through discussion help to bring these hidden meanings to light. When pupils first begin to read between the lines they often make errors. For example, they may infer poorly and as a result reach wrong conclusions. Such errors and other weaknesses come out clearly when children have an opportunity to present and compare their respective understandings of the meanings implied in given paragraphs.

Interpreting in the Light of All the Reader Knows. In final analysis a good reader interprets what he reads in the light of all he knows that relates to the meaning of a passage. Assume, for example, that a reader has read the sentence "Columbus was overjoyed with the possibilities that lay before him when he learned that Queen Isabella had granted his request." His grasp of its literal meaning enables him to answer such questions as "Who granted Columbus' request?" "How did he feel when he heard that the Queen had done so?" But a good reader goes far beyond such a grasp of the meaning of the sentence. As he reads, he recalls Columbus' beliefs and ambitions, why he turned to Queen Isabella for help, the extent to which his hopes depended on her decision, what the steps were that he was now prepared to take and the probable political, economic and religious implications of the success of his venture. Obviously the breadth and depth of the associations aroused depends upon the wealth of direct and vicarious experience which the reader has had that relates to the events described.

Much of the failure of pupils to interpret broadly what they read is not due to inability to secure the literal meaning of passages. It is due rather to meager background in the area under discussion or to failure to recall pertinent facts. To promote breadth of understanding the following steps are essential. Before making assignments the teacher should determine whether the pupils have already acquired directly or through reading a sufficient background to enable them to grasp the broader meanings implied by the materials to be read. At times a review of relevant facts may be necessary before or at the time an assignment is made. Not infrequently new facts must be presented in class or secured through background reading. The assignment and class discussion that follows should direct the pupils attention to relevant items, stimulate the recall of pertinent associations, and cultivate the habit of interpreting what is read in the light of all that one knows that has a bearing on the topic.

The development of ability to interpret the author's language in this broad sense is not an easy task. It requires just as careful planning and pupil guidance as does a reading lesson which aims to develop the basic habits involved

in recognizing words and in securing the sense meaning of a passage. Each reading activity should promote understandings that should function helpfully in interpreting subsequent readings broadly. Fortunate indeed is the pupil who discovers early the great value of interpreting what he reads in this broader sense and who is constantly alert to the various meanings and implications of what he reads. Of equal importance also is a clear recognition by the reader at times that he is not prepared to interpret adequately what he is reading and who turns to other books and sources of information for needed background.

Reaction to the Ideas Presented (3-pp. 70-72). If reading is to serve as a safe guide to thinking and action, boys and girls must not only interpret what they read broadly but must reflect on their meaning and react appreciatively or critically to them. This is as true in reading as in listening. Psychologists have pointed out repeatedly that it is not what is presented to the child that promotes growth but rather the reaction he makes to the ideas acquired. It follows that beginning in the earliest grades, good teaching seeks to stimulate clear thinking and the weighing of values. For example, such questions as the following may prove helpful in promoting rational reactions: Do you think the "Little Red Hen" could really talk? Is this a true or make believe story? Why do you think so? Did John do the right thing when he left his pet without water? What facts in the story support your answer? As pupils advance they may judge the relevance of materials to a problem, the value of the ideas gained to the purpose at hand, the extent to which the information presented agrees or disagrees with previous concrete experience, the literary merits of a selection, the soundness of the author's conclusions, or indeed, the validity of the assumptions underlying an author's point of view.

In order to react critically as one reads, a sound basis for judgment is essential. At first a child is limited to the facts acquired through concrete experience and to the attitudes, beliefs, and standards which are acquired more or less unconsciously from his home and neighborhood and later rationalized. Experience shows that such standards or guiding concepts differ widely among individuals and groups. As the pupil advances he acquires a growing body of general information, specific facts and scientific principles through directed activities, class discussion and study. One of the challenging tasks which teachers face is to help children acquire rational standards of judgment and a broad background of information, concepts, and principles that will serve as sound guides in reacting to what he reads.

As a good reader engages in critical reading, he proceeds cautiously. He endeavors first of all to understand clearly what the author has said before he expresses judgments concerning it. This often calls for careful re-reading. As soon as he is sure of the facts presented he recalls to mind all that he knows that would aid him in making a valid judgment concerning them. Oftentimes much effort is necessary to secure facts which will confirm or refute the author's statements or points of view. Furthermore, the good reader checks carefully on the soundness of his own conclusions. Efficient teaching strives constantly to cultivate an inquiring attitude, to develop the habit of reacting intelligently to what is read, to broaden the pupils' preparation to make rational reactions, and to lead them to know when to express and when to withhold judgments.

Use or Application of the Ideas Acquired Through Reading (3-pp. 72-73) As the good reader interprets accurately and reacts critically he intergrates the valid ideas acquired with previous experiences so that new or clearer understandings, rational attitudes or improved patterns of thinking and behavior result. Far too often the reading done in school stops short of this significant step. As a result

the mind becomes a mere storehouse of facts and not a creative agent for broadening and deepening understanding. Fortunate, indeed, is the child who approaches his reading with a challenging problem in mind, who interprets broadly and reacts critically and who is constantly challenged by such questions as: What new ideas have you acquired through reading? How have they changed or re-enforced your previous understanding of this topic? How do these facts contribute to the solution of our problem? In what ways have your attitudes toward boys and girls from other lands been changed by your reading? The understandings and attitudes thus acquired are used throughout the pupil's life in directing thinking, in guiding overt behavior, in defending a point of view, and in moulding interests. Only as reading contributes thus to the pupil's understanding does it render its greatest service.

Unfortunately reading as well as other aids to learning may produce harmful as well as desirable effects. For example, it may result in hate, fear or prejudice as well as happiness, good will or ambition. Many of the decisions of the reader may be reached without clear understanding and there may be action without careful study of all the facts involved. A good teacher seeks constantly to reduce such responses to a minimum. Through careful guidance she stimulates open-minded inquiry and willingness to suspend judgment until all the facts have been considered and she promotes the kind of thinking while reading that insures growth in understanding and the development of rich and stable personalities.

Adjustments in Reading to Satisfy the Reader's Purposes

Most of the discussion thus far has been concerned with the steps essential in reading material to secure a clear grasp of its meaning and to broaden understanding. Much of the reading which is done, however, is in response to specific interests and needs of the reader. All of the attitudes, skills of interpretation and modes of thinking discussed in this chapter are involved in satisfying the unique interests and needs of a reader. In addition the good reader takes the following steps: (3-pp. 35-36)

1. He defines clearly the ends which he hopes to achieve through reading which may vary from finding the answer to a specific question to seeking enjoyment and relaxation.

2. He recognizes the nature of the demand that will be made upon him which may vary from merely grasping the sense meaning of a passage and selecting the answer to a fact question to a broad interpretation of the meaning of a passage, rational reactions to the ideas presented, and deliberate reflection on their significance and applications.

3. He studies the kind and source of the material to be read and the extent to which it must be read in detail and studied critically in order to achieve his purpose.

4. He then decides on an appropriate procedure in reading, concentrates while reading on the kinds of information or understandings sought, and adjusts his speed of reading to the ends to be attained.

The foregoing discussion has directed attention to only some of the many problems involved in promoting understanding in and through reading. It will have served a valuable purpose if it arouses keen interest in and an inquiring attitude toward these and other challenging problems relating to understanding in reading.

Bibliography

1. Bonser, Frederick; Burch, S. H., and Turner, Margaret. "Vocabulary Tests as Measures of School Efficiency," *School and Society*, II (November 13, 1915), 713-718.

2. Chall, Jeanne S. "The Influence of Previous Knowledge on Reading Ability," *Education*

Research Bulletin, XXVI (December 10, 1949), 225-230, 246.

3. Gray, William S., Editor. "Basic Competencies in Efficient Reading," *Reading in an Age of Mass Communication*, Chap. IV. New York: Appleton-Century-Crofts, 1949.

4. Gray, William S., and Holmes, Eleanor. *The Development of Meaning Vocabularies in Reading: An Experimental Study*. Chicago: University of Chicago Press, 1938.

5. Greene, Harry A. "Direct Versus Formal Methods in Elementary English," *Elementary English*, XIV, (May, 1947), 273-285.

6. Hilliard, George H. *Probable Types of Difficulty Underlying Low Scores in Comprehension*. University of Iowa Studies in Education, Vol. II, No. 6, p. 39. Iowa City, Iowa: University of Iowa, 1924.

7. Horn, Ernest. "Reading in Relation to Learning," *Methods of Instruction in the Social Studies*, pp. 154-156. New York: Charles Scribner's Sons, 1937.

8. Horn, Ernest. "Language and Meaning." *The Psychology of Learning*, National Society for the Study of Education, Forty-First Yearbook, Part II. Bloomington, Illinois: Public School Publishing Company, 1942.

9. Hughes, Mary M., and Cox, Vivian K. "The Language of First-Grade Children," I and II. *Elementary English*, XXVI (Nov. and Dec., 1949), 373-80; 468-474, 495.

10. McKee, Paul. "How to Develop Competence in Grasping the Meaning of What is Read," *Reading in Relation to Experience and Language*, Chap. IX, Supplementary Educational Monographs, No. 58. Chicago: University of Chicago Press, 1944.

11. Gray, William S. (Chairman). National Society for the Study of Education. Forty-Seventh Yearbook. Part II. *Reading in the High School and College*. Chicago: University of Chicago Press, 1948.

12. Gates, Arthur I. (Chairman). National Society for the Study of Education. Forty-Eighth Yearbook, Part II. *Reading in the Elementary School*. Chicago: University of Chicago Press, 1949.

13. Philbrick, F. A. *Understanding English An Introduction to Semantics*, Ch. I and II, New York: The MacMillan Company, 1942.

14. Salisbury, Rachel. "Structural Aids to Good Reading," *Reading in Relation to Language and Experience*, pp. 90-94. Supplementary Educational monographs, No. 58, Chicago: University of Chicago Press, 1944.

15. Thorndike, Edward L. "Reading as Meaning: A Study of Mistakes in Paragraph Reading," *Journal of Educational Psychology*, VIII (June, 1917), 323-332.

16. Waters, Doris. "Pre-Reading Experiences," *Education*, LIV (January, 1934), 308-12.

How the Curriculum May Contribute to Understanding

RUTH G. STRICKLAND[1]

Introduction

The success or failure of education in any society is not so much a matter of methods and materials as it is a matter of the accord or lack of accord between the educational experiences of children and the requirements of adult life in that society. A recognized need in our culture is for more men and women who are psychologically and mentally mature in their approach to life. The contentment with immature behavior, lack of depth of understanding and knowledge, and the frequent inability to act as an adult in our competitive society— these are not difficult to understand when one considers the right-about-face expected of individuals passing from many of our schools into adult life. In these schools obedience, submissiveness, and dependence have been considered almost the only virtues while in life outside the school initiative, self-reliance, and the authority of experience as well as knowledge are the keys to success and to the respect of one's fellows. The failures in our educational system are not all problems of children's ability and teachers' skill; they are the direct result of the contrary virtues we assign to childhood and maturity. Ruth Benedict, as the result of her study of anthropology, marvelled that the "margin of safety" is as great as it is, and that enterprise and self-reliance are not killed for more of our children. (1)

Maturity — How Achieved

The matter of mental and psychological maturity is of increasing concern to thoughtful people in our society. Many adults show evidences of arrested development which might have been prevented had childhood experiences been more wholesomely guided and had the process of maturing been made more challenging and satisfying.

Overstreet characterizes a mature person not as one who has come to a certain level of achievement and stopped there, but rather as a *maturing* person—one whose linkages with life are constantly becoming stronger and richer (22). A mature person is not one who knows a large number of facts but one who is growing continuously in knowledge and in wise use of it. A mature person operates well in his immediate human environment and is constantly reaching out for new contacts and new bases for human fellowship beyond his immediate sphere.

Building linkages with life is the prime purpose of the school. Children must grow from ignorance toward knowledge, from irresponsibility to responsibility, from verbal isolation into communication, from egocentricity to genuine social concern, and from ability to see only particulars to ability to see wholes, to sense relationships, to gain perspective—in short, as Overstreet says, to learn the way of the philosophic mind. Since schools are places for growing, it is imperative that the adults who guide children understand how growth takes place and that they, themselves, be growing. Also, if the schools are to live up to their obligations to help young people grow into mental, emotional, and social maturity, they must provide experiences which make such growth possible.

The curriculum of a school is commonly considered to consist of the activities in which children engage and the intellectual content to which they react. Actually, the curriculum for

[1]Professor of Education, Indiana University.

each child is his own experience, what takes place within him in the course of his participation in activities and his reaction to ideas and knowledge (20). In a very real sense, experience and learning go hand in hand and can scarcely be considered separately. The role of experience in the growth and education of children is still imperfectly understood by many teachers, administrators, and parents, which accounts to a large extent for the great confusion that exists with regard to curriculum and methods of teaching.

If children are to develop active, inquiring minds they cannot be schooled solely in accepting and reproducing what is ladled out to them. If education is to concern itself with building minds, children must be confronted with problems to be solved, given encouragement in recognizing available resources and using them in gathering relevant evidence, guided in weighing evidence and arriving at conclusions, and in testing their conclusions. They must have many opportunities to utilize their growing skills, knowledge, and insights in digging into real problems and perservering until they have reached satisfactory conclusions, that are commensurate with their abilities and maturity.

The heavy emphasis upon assigned lessons and textbook teaching which is still found in many schools deprives children of opportunity to develop maturity because their experience is restricted and academic and because the limits within which thinking and learning must take place are fixed by the material assigned. When thinking is held within prescribed limits, children are not exposed to materials which might arouse their curiosity or cause them to doubt and therefore to think beyond what is prescribed.

Aspects of Verbalism

The "verbalism" in the schools that is so much deplored by thoughtful people, parents as well as teachers, is a meaningless use of words —an overuse of words that lack depth or significance in the mind of the user. Such verbal teaching restricts children's thinking and forces them to accept what is offered with little or no opportunity for any type of expression other than passing back to the teacher in oral or written form the material of the assignment. This has resulted in mental habits and attitudes that overrate and overuse the filing and storage function of the mind, memory, while making little use of the thinking and reasoning functions.

It is the mental habits fostered by verbalism that cause concern, such habits as: shallowness of thinking, satisfaction with only partial knowledge, willingness to use words without clear concept of meaning, willingness to generalize on inadequate data, and willingness to accept what is offered without critical thinking or evaluation which, of course, means susceptibility to propaganda and mass emotion. All of these are marks of immaturity. Children grow into maturity only in situations which challenge them to use their mental power to its fullest extent and through that use to stretch and expand their power for even greater use. Growth toward maturity can come only in situations where there is satisfaction and profit in personal effort and delving, and there must be satisfactions both in the process and in its outcome. Children develop a creative attitude toward life through opportunities to test their powers, to try themselves out in many ways and in so doing achieve a sense of personal worth and respect for the worth of their own ideas and the possibilities encompassed by their powers.

Theory of Activity

Dissatisfaction with passive acceptance as the sole method of learning in the school was first expressed by John Dewey at about the turn of the century. The philosophy of Dewey has had a profound effect upon American educators. As McGaughy has indicated, Dewey's "theories were so devastatingly convincing that

many began to question seriously for the first time most of our standard practice in the field of school administration and curriculum." The fact that Dewey's philosophy did not square with earlier theories of psychology caused difficulties in application of the new philosophy but did not deter those who believed in his philosophy of society and of education.

The introduction and rapid acceptance of organismic psychology has given tremendous impetus to the activity movement. "Since the introduction of the theory of organismic psychology into the United States, its acceptance has been rapid, partly because it is consistent with the Dewey philosophy of education, but mostly because it fits in perfectly with the observed facts noted in the school, in the home, or on the street as to how children really do learn" (15, p. 189).

The 1930's produced a quantity of literature on the activity movement. An article in the Thirty-Third Yearbook of the National Society for the Study of Education presents a definition of the term "activity" based on a variety of authoritative evidence (13, p. 63).

> The term "activity" as the unit conception of the activity program seems best understood as a unitary sample of actual child living as nearly complete and natural as school conditions will permit.
>
> In keeping with this conception of "activity", the educative process takes on appropriate meaning. Study and learning become natural and inherent within the life process: study as the effort of intelligence to deal accurately with the situation at hand; learning as summing up the varied internal effects upon the child of the experiences as such—intellectual, emotional, physical, all inherently interrelated.

Living is by its very nature activity. Though activity is characteristic of all ages of people, children are so overtly, obviously active that it is impossible to think of them otherwise. They learn through contact and interaction, just as man has learned all down the centuries. Through interaction with the people, things, and events which they encounter in their environment they acquire meanings, symbols, skills, attitudes, values, and standards and patterns of response—in short, their linkages with life. The more vivid and vital the experience and interaction, the deeper is the understanding and the stronger the link that ties them to life. If the curriculum of the school is to enable the child to build the linkages he needs in order to attain maturity, then it must afford opportunities for the types of interaction that are essential to the building of those linkages.

Interaction—Language — Understanding

Interaction with people results in many types of learning. Interest in people and their actions provides the essential motivation for developing the communication skills. No little child would learn to talk unless there were some one to talk to and some personal value in talking. Oral communication skills are in an immature stage when the child enters school and need a great deal of highly motivated practice for improvement and also training for specific functions such as discussion, sharing, planning and the many other purposes for which adults use oral communication. Yet the traditional school sets up the worst possible conditions for such development in its rows of screwed-down seats which make of each a little island of isolation. Adults communicate best in informal, face-to-face situations yet children are so placed that when they communicate at all they must communicate with the teacher over the backs of many heads. Other children listen in on this teacher-pupil communication but real interaction is rendered impossible both by the physical arrangement and by the required pattern of teacher-pupil relationship. An informal, flexible group arrangement results in far greater language maturity because it makes possible the sharing of experiences and reading, of planning, reporting,

discussing, and evaluating progress and achievement and doing so through face-to-face communication. Parents and other visitors frequently comment on the poise, confidence, and maturity of children's use of language in a modern school.

The quality of written communication in the school is dependent upon the experience background of the children and the motivation provided for the development of written expression. Skills in written communication are more readily and more firmly learned when they are developed in and for real use in social situations and when they touch the child's real interests. Schonell, in his study of English children who were retarded or who showed disabilities in oral and written language found that a meager background of experiences showed clearly in both quality and quantity of expression (24). He became convinced that drill on fundamental techniques resulted in little gain in expression but that efforts to enrich the child's experience bore fruit in the form of desire for expression as well as something to express. He emphasized the underlying implication that "there should be more planned integration of English activities on the basis of real life experiences." Functional values were to be considered at all times and more strenuous efforts made to blend the technical and the creative aspects of school language work in a natural way, giving at least as much emphasis to the content of expression as to its form.

Interaction with people results in understanding people. Growth from egocentricity to social understanding and social concern comes through working, playing, talking, and thinking with people. The child learns how people respond under various circumstances and gradually develops understanding which leads to sympathy and finally to empathy, that taking on of another's emotional reaction and feelings so that one feels with him, not just for him. Empathy is the mature level of emotional response to the thought, concerns, and needs of others which is so badly needed in the present world of chaotic and tense human relationships.

The Importance of First-Hand Experience

Intimate contact with things and events is recognized as essential to the learning of the preschool child. He cannot construct meanings for words dealing with objects and their properties without contact with those objects. Neither can he develop quantitative, relational, and qualitative concepts without a great deal of firsthand experience with things in many forms and situations. He must have active contact with activities and events and the words used in dealing with and describing them in order to construct concepts of the operation of such activities and events that he can carry in mind. The school-age child is called upon to develop a vast number of meaning constructs without direct contact with the objects and activities which they represent. Ritter found 2195 technical, difficult, and unusual terms in an introductory book in geography which is commonly used in fourth grades (23). Not only is the number of terms amazingly large but a single word may be used with more than one meaning. Horn suggests that the first step in establishing more favorable learning conditions is to drastically decrease, at each grade level, the number, difficulty, and remoteness of the problems and concepts with which children are required to deal. Decreasing the remoteness and making possible more learning through first-hand and concrete experience would greatly decrease the difficulty of the learning requirement.

Surveys of teaching in large numbers of schools, both rural and urban and in all parts of the country, have shown that language carries the main, and in some instances almost the sole, burden of instruction. Field trips, visual and auditory aids and other instructional media are

used infrequently and then often ineffectively. Even where they are used extensively, the portion of the curriculum which can be learned through these media is relatively small.

Watts has stated the problem clearly and forcefully as it relates to language and expression:

> The facts being as they are, we may therefore expect normal children to acquire facility in dealing verbally with first-hand experience of the commoner phenomena of life. We can and should encourage them to write vividly and interestingly about what they have seen and heard so as to reproduce its novelty and freshness. . . . But we ought not to expect them always to understand and use language which deals with experience at second-hand. . . . As Whitehead says, the success of language in conveying information in the absence of a background of direct experience may be easily overrated. The general truth of Hume's doctrine as to the necessity of first-hand impressions is inexorable. (28, p. 26).

In the academic textbook procedures employed in many schools, language is made to substitute for experience rather than serve as a part of experience. A child can use language as a substitute for experience only where he can supply, out of his own past experience, word symbols that mean to him what the experience itself means. If his past contains experience similar to or having component elements found in the new situation, he can learn from applying known symbols in new but not entirely unfamiliar situations. Language can serve as a substitute for experience only when the child can reconstruct in his mind the meaning and the appearance of the situation from elements in his possession and of which he is master. Through giving attention to the context, he can arrange and interpret the meaning elements if all are thoroughly comprehended by him. Horn has called attention to the problems that lie in the use of symobls:

> Any symbolization, no matter how abstract, should be connected with experience in a gapless chain, every link of which has its meaning established by reference to experience. The utilization of language in this dual role of substitution *for* concrete situations and *for* overt responses is far too predominant in present-day instruction in comparison with the utilization of language functioning *in* concrete stimulus situations and *in* overt responses. As a consequence, verbalism pervades instruction (9, p. 386).

Language cannot be conceived of as mirroring reality. The vagueness of many of the child's responses makes clear the fact that the words he hears or recognizes in print do not in themselves present a picture or call up a meaning in his mind. The child must bring meaning *to* the symbols he hears or visually recognizes in order to construct or assemble the meaning that lies in the words.

The use of words without adequate experience sets up a vicious chain of learning problems for the child. He is called upon to form ideas from the material in textbooks or from the words spoken by the teacher when his background does not contain the working material for forming these constructs. If he must form them from language alone, he is forever placed in the position of fabricating new ideas from the vague and inaccurate ideas he has previously formed, and the result is increasingly unsatisfactory.

There are values and dangers in words which must be clearly recognized. Horn calls attention to the uses and abuses of language:

> The power of words to select, abstract, emphasize, generalize, or interpret from particular instances and to refer to things nonexistent or hypothetical, or to things which vary from a particular instance in one or more ways, is the source of invention, problem solving, and artistic creativeness. It is also the source of misconceptions and maladjustments. The benefits which it

> gives can be obtained and its ill effects avoided only by a clear recognition of such limitations . . . (9, p. 389).

Watts shows the same concern when he calls attention to the fact that "where textbooks, the natural habitat of the abstract term, abound most, ignorance finds it easiest to disguise herself" (28, p. 28). Too many ideas remain forever "in the twilight between clear knowledge and blank ignorance" without ever being pulled out into the bright sunlight, for a good, clear look at them. This involves using language *in* experience, not as a substitute for experience. Discussions, association, visual protrayal, experimentation, and dramatic or constructive experience may clarify the ideas and provide depth of meaning for the word symbols in which they are carried. First-hand experience is the most reliable clarifier but other types of experience can be made to serve where it is unavailable.

Studies of the Significance of Experience

A quantity of experimentation has been carried on in various places throughout the country to study the activities that are suitable for children of different maturity levels and the learning that results from the experience of participating in such activities. Since the activity movement was first rooted in philosophical considerations, actual quantitative research was slow to appear though there was a good deal of experimentation based on these philosophical considerations (6). The first statewide experimentation appeared in California and was reported in two volumes of guidance for teachers (3, 4). Virginia published a curriculum for the state based on the activity concept and providing for the breaking down of separate subject emphasis (27). Lincoln School of Teachers College published eight volumes of material, written by classroom teachers of the first through the seventh grades, presenting programs of activities carried on successfully with children at these grade levels (14).

The best known and perhaps the most significant experiment with the activity program was conducted in 70 elementary schools in New York City for a six year period beginning in 1935. An advisory committee was appointed to study and guide curriculum development as well as to evaluate results. Activity education was defined as a "program based upon units of pupil activity as a substitute for and supplement to the traditional textbook learning" (12).

The report of an evaluating committee which studied the activity and non-activity schools indicates slight but statistically unreliable advantage for the control schools in subject matter. The activity groups surpassed in such activities as leadership, experimentation, self-initiated enterprises, participation in discussion and the like. They accomplished more in arts and crafts. They were also superior in intellectual operations calling for working skills, in explaining facts, in applying generalizations, in expressing beliefs, in personality, and in knowledge of current events (11). Morrison, in reporting further evaluative study, concluded that "the activity program may be continued and improved with reasonable assurance that children will gain as thorough a mastery of knowledge and skills as they would in the regular program." Statistically reliable differences were found to favor the activity procedure in areas affected by the emphasis upon critical reading, use of elementary research techniques, development of civic attitudes, and understanding of social relationships (18, p. 162). The children were found to excel in respect for school authority. They liked school better, found it more interesting, and tended to carry more of its influence into their out-of-school living. They excelled in ability to work together cooperatively, in self-confidence and poise, in lack of subservience, and also in creative abilities, self-discipline, and scientific outlook.

Wrightstone summarized the results of the experiment in three main points: (1) The ac-

tivity program was as effective in developing fundamental skills as was the older program, (2) The activity program was more effective in developing social behavior, attitudes, interests, ability to think, and ability to work on own initiative, and (3) The advisory committee recommended that the program be continued and extended to other schools (31).

Wrightstone also, in an earlier report, compared 500 carefully matched children in the two types of schools, the progressive, activity schools and the traditional schools, and found that the children in the progressive schools were ahead in reading, spelling, language, and arithmetic. They also scored higher on current affairs, honesty, cooperation, and leadership. The pupils in the traditional schools knew more health rules but those in the progressive schools were stronger physically (26).

Both the Sloan and the Kellogg foundations have sponsored experimentation with a functional, activity type of program for small and less privileged schools (6, 19). The Sloan experiments dealt with problems of food, clothing, and shelter and were carried on in Kentucky, Florida, and Vermont for the purpose of determining whether or not the schools can improve the community. The Michigan Community Health Project brought about changes in the teaching in one-room rural schools for the same general purpose. Both projects indicate that changes take place in the school health program when the emphasis is shifted to concrete effort to improve the health of the community. Certainly the economic welfare of the country should be improved through teaching the low income group how to meet their problems more adequately. In both of these experiments, it is made clear that the schools, through the carrying on of activities designed to do this, prove themselves to be powerful agencies for economic and social improvement.

A number of researchers have studied the evolving concept of the activity program. Black, in such a study concludes that, as compared with traditional schools, practices that have evolved indicate the advisability of providing many concrete experiences, more flexible schedule, more participation by teachers and pupils in selecting subject matter, and the socialization of classroom procedures (2). This does not mean that an unplanned curriculum is being advocated; that controversy appears to be arriving at a sensible solution. Herrick maintains that every curriculum approach has to consider at some point both children and subject matter (8). Hand contends that the school must have a planned curriculum unless it is to be permitted to function as an irresponsible institution with reference to what is to be learned (7). Olson offers for consideration the principle of self-selection as a basis for curriculum and method and describes the educational application of certain ideas current relative to the self-selection of food by infants (18). This would, as in the food selection experiments, be self-selection from a carefully planned and assembled offerring, not free and unguided selection.

Growth in provision of pupil activities is evident in several studies. Jensen surveyed available literature and analyzed data from elementary school principals in an effort to learn the status and probable value of activities supplemental to the curriculum (10). She found that training in thrift was reported most frequently and student councils were least frequent. It is significant that the smallest and the largest of the schools studied provided no supplemental activities for Grades I, II, and III. The greatest number of activities were reported by schools of middle size with enrollments of from 500 to 699. Only the assembly was listed at all frequently in Grades I to III, while safety patrol activities were listed most frequently in Grades IV to VI. Otto also found the greatest variety of classroom activities engaged in by children in the medium-sized school (21). He

found a large number of schools making use of the lunch program as a laboratory related to health instruction. Also, community projects were being used in a large number of schools. Otto holds that these projects reveal an encouraging trend even though a majority of those reported were of lesser educational value.

Approaches Toward an Experience Curriculum

Growth in understanding of the value of activities in learning is evident in many schools though the extent of use of the activity principle varies greatly. Olson indicates five degrees of modification which he has noted in the programs of schools which are gradually moving in this direction (17, p. 55):

1. A definite period is set aside and the children are supplied with art and construction materials so that they may do a number of things with their hands which they have not done before. The usual classwork proceeds with only slight modification.
2. "Activities" are employed to carry out, illustrate, and increase the interest of children in the content of a course of study organized in a traditional manner.
3. Activities cluster about some central provision such as an auditorium program which is made the occasion for the correlation and synthesis of whatever is being done in the classroom. Classroom practices may utilize the activity conception in varying degrees.
4. Subject matter is organized to contribute to large centers of interest or units of work such as "transportation," "communication," or "government." These may be rather completely organized in advance by the course of study or by the teacher, but they attempt to secure a larger amount of integrated behavior on the part of the children.
5. The final stage is similar to the preceding except that the children play a larger part in planning both what to do and how to do it. Under this conception the most satisfactory unit of work is one that grows out of the experience of the children, develops, reaches a satisfying conclusion, and is not necessarily repeated again by other children.

All aspects of school work are enriched when the children carry on varied and functional educational activities. The type of activity is determined by the situation, the needs of the children, the matter to be experienced, the concepts to be acquired, or the facts to be learned. Language development is dependent upon opportunities to expand the child's vocabulary of words and meanings and upon opportunities to use language in situations which provide for growth. The content of the social studies is made to come alive for children so that they can construct new meanings through drawing upon previously acquired meanings that are clear, accurate, and precise.

The child begins to learn lessons in democracy as a way of life even in the kindergarten. Through helping to formulate necessary plans and rules for care of equipment so that all may share it, or for classroom behavior so that one child's interests do not stand in the way of another child's legitimate pursuits, children begin to develop concepts of government and the free interaction of people. A group of children sitting down together with their teacher to discuss a problem, to suggest solutions, and having weighed them to select one and agree upon it for action, have had a real experience in democratic government.

Second grade children planning a garden may consider locations giving thought to exposure to sunlight, drainage, ease of access, size of space for group work and many other problems. They may interview parents and neighbors, look up material in seed catalogues, gardening books, and science textbooks, and perhaps do some preliminary classroom experimentation with seed germination in various types of soil. One group of seven-year-olds went out as soon as the weather permitted and

measured the selected space very carefully. They returned to the classroom and spent some time with rulers, yardsticks, and tape line figuring out a way to make a large map of the garden area on wrapping paper on the floor, learning terms and measurements as they worked. Having decided that six inches in the map could stand for thirty-six inches or three feet of outdoor space, they were ready to plan where and how to indicate on the map the proposed planting. They turned to books again to help them decide whether rows should be planted lengthwise or crosswise of the space to get the best sunlight and finally went back to the garden at recess time to note directions with a compass and to give attention to direction of shadows. The children each brought ten cents from home to put in a garden bank for the purchase of seeds. This money was later restored to the bank when lettuce and radishes were ready for sale. The study included use of reference books to study insect, bird, and plant life as they are related to gardening, and the reading of many stories. Creative writing flourished as well as practical writing of many sorts. The carrying through of the study called for intensive application to a purpose. There were many problems to be solved and many lines of thought and activity to be followed through consistently because failure to do so would have reduced the value and interest of the whole enterprise. The experience included physical activity at many points but the intellectual activity was rich and varied.

A fifth grade group became interested in studying methods of communication. They began with mass communication media, then traced communication back through the centuries to the runners of King Darius of Persia, Indian signal fires, African drums and other primitive forms. In their study, they considered the relationship between the form of communication and the level of civilization it represented. They brought out at many points the relationship between the development of new forms of communication and the expansion of man's intellectual horizons and his social contacts. When they came back through the centuries to modern mass communication it was with expanded insight into the relationship between methods of communication and the rest of life. There was experimentation with models the children constructed, dramatization of various forms of communication, creative interpretation through original stories and verse, and a great deal of independent reading and preparation of oral and written reports. A series of large paintings was made to depict the whole span of communication and served as a review of the total study. The children returned to books again and again to verify details both as to the form of the communication instrument and the background of life against which to portray it. As in the case of the second grade gardening, there was overt, motor activity supplemented by audio-visual material at various points. Techniques for the use of source material were given constant attention and the children gave careful thought to standards of accuracy and clarity in the presentation of material. The thinking involved in recognizing and following through sequences of relationship was in itself a valuable activity.

The activities considered important in the modern school are by no means all connected with overt, physical activity. Setting up a problem, gathering data, selecting, analyzing, weighing, evaluating, and applying what is learned—these are all essential activities. Pursuing a line of thinking or reasoning through a problem may call for hard thinking and a quality of intellectual labor never found in an "assigned lesson to be studied and recited" type of situation. Digging out material from reliable sources, assuming responsibility for checking accuracy, developing habits of independent work and habits of critical and constructive thinking are activities which have their counterpart in the

daily life of every individual who tries to do his share of the work of the world. The sporadic outbursts of parents and teachers who fear that "activities," as they conceive them, may prevent solid achievement along essential lines, are evidences of lack of understanding that the fundamental skills are both basic to the carrying on of these activities and also more readily and effectively mastered in and through these activities.

In Conclusion

The condemnation of verbalism in the schools grows out of the fact that it is a surface level of operation which deprives the child of opportunity to learn to do real intellectual work and consequently holds him at an immature level of operation. The inability of many college students trained in this kind of school to do any really solid thinking furnishes proof that the problem exists.

Building real and vital linkages with life is the essential task of the school. A program of activities which stimulates critical and constructive thinking and provides opportunity for wholesome action in line with the patterns which appear in life outside the school gives children the opportunity they need to expand and grow and to develop the maturity of outlook and thinking which can come only through vital experience.

Bibliography

1. Benedict, Ruth. "The Educative Process—A Comparative Note." *Mental Health in the Classroom.* Thirteenth Yearbook, Department of Supervisors and Directors of Instruction. Washington, D. C.: The Department. 1940.
2. Black, William A. *Study of the Evolving Concept of the Activity Program.* Doctor's Thesis. Boulder: University of Colorado, 1942.
3. California Public Schools. *Teachers' Guide to Child Development.* Sacramento: State Department of Public Instruction.
4. California Public Schools. *Teachers' Guide to Child Development for the Intermediate Grades.* Sacramento: State Department of Public Instruction.
5. Clark, Harold F. "Food, Clothing, and Shelter; The Sloan Experiments." *Clearing House,* 19:418-419. March, 1945.
6. Hanna, Paul. "Activity Curriculums." *Review of Educational Research,* VII: 172-174. April, 1947.
7. Hand, Harold C. "The Case for the Planned Curriculum," *Educational Administration and Supervision.* 33:193-200. April, 1947.
8. Herrick, Virgil E. "Planned and unplanned Curriculums," *Elementary School Journal.* 47:563-570. June, 1947.
9. Horn, Ernest. "Language and Meaning." *The Psychology of Learning.* The Forty-first Yearbook, Part II. National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Company, 1942.
10. Jensen, Lucy A. *Activities Supplemental to the Curriculum in the Elementary School.* Master's Thesis. Los Angeles: University of Southern California, 1944.
11. Jersild, Arthur T. et al. "A Further Comparison of Pupils in Activity and Non-Activity Schools," *Journal of Experimental Education.* 9:303-309. June, 1941.
12. Jersild, Arthur T. et al. "An Evaluation of Aspects of the Activity Program in the New York City Public Elementary Schools," *Journal of Experimental Education.* 8:166-207. December, 1939.
13. Kilpatrick, William H. "Definition of the Activity Movement Today." Chapter III. *The Activity Movement.* Thirty-third Yearbook. National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Company. 1934.
14. Lincoln School Units of Work. New York: Bureau of Publications, Teachers College, Columbia University. 1931-1934.

Wright, Lula E. *A First Grade At Work*
Hughes, Avah W. *Carrying the Mail* (Grade 2)
Kelloe, Katherine M. and Sweet, Mayme. *Indian Life and the Dutch Colonial Settlement* (Grade 3)
Enright, J. B. and Young, Bess M. *Advertising with Toys* (Grade 4)
Leining, Edna B. *Millions of Years in a Winter* (Grade 4)
Baxter, Tompsie and Young, Bess M. *Ships and Navigation* (Grade 5)
Barnes, E. A. and Young, Bess M. *Children and Architecture* (Grade 6)
Barry, E. and Schallkapt, A. *Western Youth Meets Eastern Culture* (Grade 7)

15. McGaughy, J. R. *An Evaluation of the Elementary School.* Indianapolis: Bobbs-Merrill Company, 1937.
16. Morrison, John C. The Activity Program: *A Survey of the Curriculum Experiment with the Activity Program in the Elementary Schools of the City of New York.* New York: New York State Department of Education, 1941.
17. Olson, Willard C. "The Bases for Activity Programs in Elementary Schools," *School of Education Bulletin,* University of Michigan, 8:55-58, January, 1937.
18. Olson, Willard C. "Self-Selection as a Principle of Curriculum and Method," *Education Digest.* 10:17-19. May, 1945.
19. Otto, Henry J. et al. *Changes in Classroom Teaching Made During 1937-39 in One-Room Rural Schools in the Area of the Michigan Community Health Project.* Battle Creek: W. K. Kellogg Foundation, 1940.
20. Otto, Henry J. *Principles of Elementary Education.* New York: Rinehart & Company, Inc., 1949.
21. Otto, Henry J. "The Composition of Elementary School Programs," *Educational Administration and Supervision.* 33:1-12. January, 1947.
22. Overstreet, H. A. *The Mature Mind.* New York: W. W. Norton and Company, Inc., 1949.
23. Ritter, Olive P. "Repetition, Spread, and Meanings of Unusual, Difficult, and Technical Terms in Fourth-Grade Geography Texts." Doctor's Dissertation. University of Iowa, 1941.
24. Schonell, Fred J. *Backwardness in Basic Subjects.* London: Oliver and Boyd, 1942.
25. Stratemeyer, Florence S. and Others. *Developing a Curriculum for Modern Living.* New York: Bureau of Publications, Teachers College, Columbia University, 1947.
26. Time Magazine. "Progressives' Progress." *Time.* 32:31-35. October 31, 1938.
27. Virginia Public Schools. *Course of Study for Virginia Elementary Schools.* Revised Edition. Richmond, Va.: State Board of Education, 1943.
28. Watts, A. F. *The Language and Mental Development of Children.* George G. Harrap and Co., Ltd., London: 1944.
29. Wright, Lula A. *A First Grade at Work: A Non-Reading Curriculum.* New York: Bureau of Publications, Teachers College, Columbia University, 1932.
30. Wrightstone, J. Wayne. *Appraisal of Newer Elementary School Practices.* New York: Bureau of Publications, Teachers College, Columbia University, 1938.
31. Wrightstone, J. Wayne. "Evaluation of the Experiment with the Activity Program in the New York City Elementary Schools," *Journal of Educational Research.* 38:252-259. December, 1944.

The Development of Thinking and of Concepts

HELEN BACHMANN KNIPP[1]

Introductory

For some time educators from different fields of study have discussed semantics and the adult's interpretation of such involved concepts as "communism," "nationalism," "democracy," "capitalism," and "loyalty." They have realized that differences in interpreting such words arise from differences in background, education, and experience and that attempts to define them objectively usually lead to emotional disturbance and end in violent disagreement. They have realized also that people cannot write and speak clearly and intelligently unless they can read with accurate interpretation; and if they cannot express their opinions to their representatives in the government, our democratic way of living is threatened.

Until recently, however, little attention was paid to the confusion a child feels when he encounters words with numerous and diverse meanings. English teachers had explained differences between literal and figurative meanings of words in such expressions as,

> vines which greened the warm hills
> tragedy had folded her mantle about this affair
> whose image had peopled her dreams
> drawing up sorrow from old wells

But other teachers were not usually aware that many common English words have several meanings and some have numerous meanings. They did not realize the confusion a child feels when he meets "hatch" in a sentence denoting the opening in the deck of a ship and applies to it the only concept he knows, to bring forth young birds from eggs. Actually the Oxford Dictionary (11) lists 32 definitions and descriptive statements for "hatch," 46 for "shaft," and 107 for "bear," to name only a few words that children meet often. To point out a typical difficulty, a pre-school child once said, "My foot is a bear" after he had heard his mother talk about his "bare foot."

The importance of semantics, even to primary teachers, is being emphasized so that from the beginning of reading instruction children may interpret spoken and written language more exactly and express themselves more clearly and effectively. Teachers are now beginning to realize that simple recognition of words is not sufficient; children at all levels must be aware of extensiveness of meanings of words and depth or vividness of meanings, as Bond and Bond (3) phrase the three levels of meaning. To be efficient readers, children must learn to think in order to develop varying concepts for the same word and eventually distinguish even between different levels of abstraction, discriminate between referential and emotive language, and recognize and interpret metaphorical language.

How can satisfactory reading instruction not only prevent confusion due to variations in meaning but even motivate pupils to be better students of linguistics? The answer lies in adequate instruction to develop concepts first through teaching teachers about semantics and then by having them teach their pupils to think and speak and write more clearly and more effectively. The same techniques may be used with both teachers and children.

Awakening Realization of Variations

1. The first step is to awaken in children and in teachers a realization that there are variations in meanings of words and that these differences in shades of meanings and in usage may lead to confusion. Begin by emphasizing that meaning exists not in the word alone but

[1]A member of the faculty of the University of Pittsburgh.

in the context. Write on the board "bow." Ask the class to pronounce it and define it. There will be several meanings and several ways of pronouncing it. It can mean (1) an ornamental knot in tying a string or ribbon, (2) a rainbow, (3) a weapon used by an archer, (4) a bowman, or archer, (5) anything bent or curved, (6) to bend the head, knee or body, (7) to submit or yield to authority or the wishes of another, (8) the forward part of a vessel or airship, etc. Write "the" in front of "bow." Now some of the above meanings will be eliminated, but there will still be confusion in meanings and in pronunciation. Even "the bright-colored bow" does not clarify the meaning. A whole sentence is necessary for complete interpretation—"I played the violin with a bright-colored bow," or "I shot with a bright-colored bow and arrow," or "He wore a bright-colored bow tie."

2. A similar technique for developing awareness of the significance of the context is to ask the class to give phrases or sentences showing variations in the meaning of simple words, instead of definitions. Responses like these, for "run"

a home run in baseball
a run in her stocking
he runs fast
my nose is running
the color in my dress ran

will be given quickly. After some hesitation others will add:

the play had a long run
he held a run of spades
a vine runs up the side of the house
he had a close run in the election
he runs a hotel
his memory runs far back

Then the instructor may add others like these:

the line runs east
the tune is running in my mind
a sheep run
in the long run
to have the run of the house
the train had a long run to New York
his tongue runs on
he ran his firm into debt
his horse ran third in the race
the iron melted and ran
he ran the rumor to its source
he ran a nail into his foot

and many others. The Oxford Dictionary (11) lists 384 definitions and descriptive phrases for the word "run."

3. The instructor may also use pictures to show variations in word meanings. Illustrations like those in *The Play-Book of Words* (8) are an excellent means of leading pupils into "a fascinating study of words and their shades of meaning," as the author states his purpose. These illustrations depict variations like the head of a horse, head of a hammer, head of a barrel, head of a nail, head of a match, head of the class, head of cabbage, head of a broom, and head of an arrow. Stories, explanations, and puzzles in this book also teach children to think while developing interest in varying meanings of words. For example, "What has arms but no hands and fingers, legs but no feet and toes?" (Answer: chair)

4. Classes or individuals may make picture books or picture dictionaries showing different connotations of words, as with "about":

he walked about a mile
the story was about a dog
he ran about in the room
he faced about
turn about is fair play
he is well and able to be about again
I'll meet you about this time tomorrow.

Differences in prepositions and adverbs are sometimes more difficult to explain but easier to illustrate, or vice versa.

5. Pupils may collect and bring to class advertisements, jokes, or cartoons, which depend upon a second meaning of the words, not the usual or literal meaning. The advertisements for a certain brand of beer show two pictures of different objects represented by the same word, as—crane as an animal and as an im-

plement for lifting weights. Advertisements for electric ranges use the words "It's matchless," meaning "without comparison" and "without a match for lighting it." Advertisements for gasoline and oil for automobiles usually contain two meanings. Recently in the comics when a man said to his young daughter, "Dog is man's best friend," she replied, "You mean they don't like ladies?" After he had straightened out her thinking, he added, "The dog is our favorite dumb animal" but she quickly answered, "He's not dumb. He does clever tricks."

Cartoons of *The Man Who* salted away his money, made an awful racket, threw cold water on the deal, and slept like a top, picture these actions in their literal sense. Another cartoon showed a man shouting to a newspaper editor, "What's the idea saying in this article that I was dancing with grace and aplomb? Now my wife's got detectives on my trail." A joke heard recently on the radio told of three men inside a silo who wanted to get out and three men outside who wanted to go in, but the silo had no doors or windows. The feat was finally accomplished, because the three men outside kept running about until they were "all in" and the three men inside kept trying until they were "knocked out." But the implication of such jokes, cartoons, and advertising matter is missed if the reader has experienced only one meaning of many commonly used words.

More serious reading matter or radio comments may also lead pupils to reading or listening more attentively. Pupils may bring in statements like "a bumper crop of babies," or "to climb to new heights in the art he graces so well," or "A person has to be somewhat of a contortionist these days to get by. He's got to keep his back to the wall and his ear to the ground. Then he's expected to put his shoulder to the wheel, his nose to the grindstone, keep a level head and both feet on the ground. And at the same time, look for the silver lining with his head in the clouds."

Developing Sensitiveness to Word Meanings

1. These techniques have relied on classroom discussion and hit-or-miss search for variations in meanings of words. More scientific procedures are needed to insure semantic emphasis in reading instruction and develop more exact understanding of words in general. A teacher may begin by showing why knowledge of words is important, such as "Efficient reading will bring you a better job, make your work easier, save you time, give you something pleasant to do in that enormous amount of spare time with which the future both promises and threatens you, and finally, give you the social ease that will make you comfortable in almost any group of people." (5) or "Instead of giving him long lists of unrelated words, we have given him the tools for improving himself. While lists of words may be forgotten, word-learning habits once cultivated, remain." (6)

2. Next the teacher must attempt to provide first-hand experiences to supply new words or vaguely understood words with their correct interpretation. Young children may visit community stores, airports, museums, and art galleries to formulate exact impressions; older children may, in addition, use scientific experiments, hobbies and construction work to experience and develop new interests and thus enrich their vocabularies.

3. When first-hand experiences are impossible or impractical, the teacher may use audio-visual aids like pictures, charts, graphs, maps, slides, radio, televisions, etc., to help pupils convert reading symbols into accurate thought units. These will help pupils differentiate between the pilot of an airplane and the pilot light on a gas stove; a strike in baseball and a strike in the coal mines; a bolt for a door and a bolt of lightning; a table as a

piece of furniture and a statistical table; a clap of thunder and the clapping of the audience; the capital in a bank, a capital letter, the capital of a state, and capital versus labor; backing a car into the garage, backing a community project, backing a rug with wool; and many other terms with several meanings that may cause confusion.

4. To develop in children greater appreciation of the relationship of words, the teacher must use specific procedures for teaching children to think and to build accurate concepts. Contextual clues should be stressed because they will be most useful and most often used throughout life. In the following sentences "cygnet" is a strange term:

> The fluffy little cygnets swam in a straight line, one behind the other. At the head of the line was their mother, a large white swan.

But the other words help a young reader decide that "cygnets" are young swans. The teacher may make up similar sentences or choose them from textbooks.

1. The pilot wore a *helmet* to protect his head.
2. He hid the book in an *obscure* part of the library.
3. The lion was in a bad temper. He had not eaten all day and he was still wet from his fall in the river.
   It was not a very *propitious* time for a mouse to ask a favor.

Thus the surrounding words help the child interpret the meaning of the italicized words in each instance.

5. When contextual clues fail to aid interpretation, the child should learn to refer to the dictionary for accurate understanding. In the case of "quick" in the sentence, "He was cut to the quick by your statement," the pupil will find several meanings of "quick" as an adjective, an adverb, and a noun. He will try several definitions in this sentence until he comes to "sensitive living flesh, as to cut a fingernail to the quick; hence, a vital part," which seems closely related but is still not the exact meaning intended by the writer or speaker. The classroom teacher must now help the pupil realize that the statement is figurative, not literal, i.e. he was not actually cut to the quick of his fingernail, but he was affected deeply or wounded in spirit by the statement. Children will also need help in finding the appropriate dictionary definition for such expressions as:

> had to leave town under a cloud
> beads of perspiration
> a rent in her skirt
> the people waxed impatient
> the thick of the fight

In dictionary practice the teacher must make sure pupils do not always transfer definitions into their statements in the same word order used in the definitions in the dictionary, as in the sentence above, "He hid the book in an obscure part of the library." The pupil will try these definitions: (1) difficult to understand, (2) hidden from sight, (3) not easily seen. When the pupil rewords the sentence, he must change the order to "in a part of the library hidden from sight."

6. The teacher may use exercises based on derivation of words to point out terms coming from similar roots but having slightly different meanings.

> "Dictator" comes from a Latin word, "dicere," "to say."
> It means the "sayer"—the one who "says" what everyone else shall do, or not do—whose word is law.
> Fill in these blanks with words formed from the same root:
> I will————the notes to my secretary.
> I acted according to the————of my conscience.
> Government control by one man is a ————.
> He thinks he can————the laws of the land.
> In a totalitarian state no one may question the power of the————.

7. To explain variations in meanings of words, teachers may use exercises like these:

(a) From the column at the right choose the word that best defines the term "guard" in each of these sentences. Then write the number of that definition in front of the sentence.

——There was a guard of honor for the general.

1. defend

——Guard against colds by keeping clean.

2. protect

——Soldiers were left to guard the city.

3. escort

——John was not on guard when his opponent struck.

4. a player

——The wire guard on the walk kept the people off the wet cement.

5. in position

——Our neighbor is a guard on the team.

6. screen

(b) There are several meanings for "band" in these sentences. Mark only the sentences in which "band" means a group of people.

1. I saw a band of gypsies on the road.
2. His watch band was pure gold.
3. A band of light shone through the window.
4. A band of robbers stole the horses.
5. The shepherd band started to cross the desert.

(c) Explain the meaning of "settle" in each of these sentences.

1. The shepherds decided to settle in that valley.
2. I need ten dollars to settle the bill.
3. We saw the ship settle in the mud.
4. Can you settle this argument?

8. Teachers may also point out words similar in appearance and in pronunciation that may cause confusion.

(a) Underline the correct word in each sentence.

1. He was not (eligible, legible) for membership in that group.
2. The clerk sold the (costumer, customer) a (suit, suite) of clothes.
3. Put the (flour, flower) in a vase on the (mantel, mantle).
4. We may choose either (cereal, serial) for breakfast.

(b) In some of these sentences the word "scarce" is incorrect and has been confused with some other word similar in appearance and in pronunciation. Write the correct form at the end of the incorrect sentences.

1. Meat was scarce during the war _____
2. The explosion gave him a terrible scarce._____
3. When water became scarce, the people moved away._____
4. He had deep scarce on his face. _____
5. They continued to scarce at me. _____

9. As children achieve higher levels of mental maturity and progress through the secondary level, teachers must help them interpret simple terms used as figures of speech, or as classical allusions, as:

lips like rubies, teeth like pearls
she has seen sixteen summers
the Waves to sleep had gone
All the world's a stage
Good luck knocks at his door
a child wrapped in the arms of Morpheus
cold from her haunt—a Naiad slim.

Children will need systematic guidance to identify and interpret these unusual expressions so that they may acquire real pleasure from reading these niceties of composition and become extensive and efficient readers as adults.

Acquainting Teachers with Actual Difficulties

1. Finally, teachers should be acquainted with the research showing the difficulties children have when they meet unusual meanings of known words or strange words. Investigations of children's concepts by Lacey, (7) Meltzer, (9) Gibbs, (4) Ordan, (12) Strouse, (15) and others indicate that ideas that seem com-

mon to adults are not understood or only vaguely understood by children at the elementary level. Russell (13) states, however, that these studies suggest that teachers cannot rely upon their pupils' understanding of a particular word, but they also indicate, more hopefully, that pupils grow rather continuously in their true understanding of concepts and that school programs can foster such understanding.

Semantic counts of words like that led by Thorndike and Lorge (17) and begun in 1934 should be familiar to all teachers. A less extensive semantic count made by Thompson (16) showed that, in the eight primers she studied, 97 words had from two to fourteen meanings. A semantic study of several pre-primers published by seven publishing companies within the past three years was just completed under the writer's supervision. This investigation showed that, in the first pre-primers, ten words had two meanings and one word, "play," had three meanings; in the second pre-primers, thirty-one words had two meanings and four words three meanings; in the third pre-primers 139 words had two meanings, 13 had three meanings and four had four or more meanings. In the fourth pre-primer (of only one series) twenty-seven words had two meanings and ten had three meanings. Of course, many of these meanings are repeated from book to book, but teachers must be on the alert to prevent confusion before it can arise in the minds of these young readers.

In the writer's (1) own dissertation for the doctoral degree, a study of two books of tenth grade difficulty (18) showed that 1,291 of the 5,095 words tabulated had two or more meanings; the number of different meanings varied from two meanings for 676 of those words to 25 meanings for the word "made."

2. Teachers may also make semantic counts of textbooks they use daily, as many graduate students at the University of Pittsburgh are doing. The analysis involves careful reading to determine whether each word on the pages selected or each word on every page may have more than one meaning. Words and their contexts are then recorded on cards, thus:

CARRY — 1[1]
1. Here, carry Melissa." 281-21-251-231[2]
2. to learn to carry off the toga 119
3. was carried to a conclusion 338-343
4. by carrying off Helen 1
5. epidemics which carried off whole families 168
6. carried out their intention 267-101-121
7. to carry on the siege 291-331
8. Chloe insisting upon the longer carry 265

Explanation:
[1]the index number in Thorndike's Word List
[2]pages on which that meaning occurs in *Helmet and Spear* and in *The Forgotten Daughter.*

These cards are kept by the teachers and duplicates are kept at the Reading Laboratory of the University of Pittsburgh. Eventually publishers or authors may supply lists of words with their varying meanings on their respective pages as they now furnish lists of new terms in each book. Then the classroom teacher will be on the alert to make certain that no child believes that the Indians were "cut down the middle" when the history text states "the number of Indians was cut in two," as one girl expressed her definition. Just recently an undergraduate in the College explained Bar Association as a group of bartenders.

3. Tests of various types are also useful in making teachers realize children's difficulties with vocabulary. Standardized or teacher-made tests may be used. Either type may test children's knowledge of synonyms, antonyms, prefixes, suffixes, etc. Teacher-made tests have the

advantage of containing terms taken from the regular textbooks used in class. Graduate students at the University of Pittsburgh have used two comparative informal tests to determine how well their pupils understood printed matter. The first test consisted of defining the italicized word in each of 45 or 50 statements selected at random, thus:

1. The wasps will *light* on the jam.
2. If you say magic words, the people stick *fast*.
3. Tom *drew* a picture of a woodpecker.
4. I'll *run* the elevator.
5. Magic words made the load seem *light*.
6. Elephants *drew* the big truck out of the sand.
7. I won't *stand* for it.

Historical, geographical, arithmetical, or scientific terms like "treaty," "latitude," "longitude," "triangle," etc., were not used, as it was assumed that these would have been "taught" by the teacher. One week later without any explanation or discussion about the first test, a matching test was given using the same statements but placing them in groups of 10 or 15 items in the left-hand column with additional items in each group in the right-hand column containing the teacher's definitions of the underlined terms. All children seemed to find the definitions test more difficult than the matching test. Most of the children attempted all matching items but not all the items to be defined. Girls scored higher than boys on both tests in almost all classes, though the differences between the median scores on both tests was not always statistically significant. The teachers who composed and administered these tests concluded that their pupils: (1) did not understand the common terms they meet in their textbooks, although many understood the more technical language; (2) cannot write their own definitions so easily as they can match terms defined by teachers; (3) did not understand shifts in meaning, especially in figurative language; (4) need broader knowledge of words in all phases; and (5) need different types of tests to test understanding of semantic variations.

4. Other excellent suggestions for developing interest in vocabulary and making teachers and pupils aware of concepts, levels of abstraction and generalization, shifts of meaning, figurative language, referential and emotive languages were given by Nila Banton Smith (14) and Emmett Albert Betts (2) in the May 1949 issue of *Education*.

Conclusion

As teachers become more aware of the confusion that arises in children's minds from varying meanings of commonly used words and learn to anticipate and overcome those difficulties, they will help children become more observant in reading and become more interested in language itself. For children will go more readily to the classroom dictionary and eventually to the larger library dictionary to search for additional variations in meaning, if teachers use appropriate and satisfying techniques. Gradually even average and dull students may learn to enjoy using their dictionary training. Then pupils will no longer feel frustrated and discard a book as "too hard" if they meet with many unusual meanings of the most commonly used words in the early pages of a book. Occurrence of too many meanings for individual words and of too many words with variant meanings which aren't completely interpreted by pupils may well be one of the stumbling blocks which cause children to become "reading problems" or at least to read only when forced. Perhaps this is the most important reason why pupils fail in reading. Awareness of semantics and ability to interpret shades of meaning of words should lead both teachers and children to more intelligent thinking, clearer expression, and to keener observation and greater pleasure in reading. This, in turn, will result in increased achievement in school work and better adjustment as citizens in the future.

Bibliography

1. Bachmann, Helen M., *A Semantic Study of the Books of Two Authors Dealing with Classical Antiquity*, Ph. D. Thesis, University of Pittsburgh, 1943.
2. Betts, Emmett Albert, "Reading: Semantic Approach," *Education* 69, No. 9 (May, 1949), 527-55
3. Bond, Guy and Bond, Eva., *Teaching the Child to Read*, pp. 140-141: New York: The Macmillan Company, 1948.
4. Gibbs, Alfred, *A Study of Children's Social Concepts at the Fourth, Sixth, and Eighth Grade Levels*, Unpublished manuscript, University of California, Berkeley, 1946.
5. Hovious, Carol, *Following Printed Trails*. Boston: D. C. Heath and Company, 1936.
6. Ketchum, Roland and Greene, Jay E., *Improving Your Vocabulary and Spelling*. New York: Noble and Noble, Inc., 1944.
7. Lacey, Joy M., *Social Studies Concepts of Children in the First Three Grades*, Contributions to Education, No. 548. Bureau of Publications, Teachers College, Columbia University, 1932.
8. Lecky, Prescott, *The Play-Book of Words*. New York: Frederick A. Stokes Company, 1933.
9. Meltzer, Hyman, *Children's Social Concepts: A Study of their Nature and Develmens*, Contributions to Education, No. 192. Bureau of Publications, Teachers College, Columbia University, 1925.
10. McKee, Paul, *The Teaching of Reading*. Boston: Houghton Mifflin Company, 1948.
11. Murray, J. A. H. et al, *A New English Dictionary on Historical Principles*. London, England: Oxford University Press, 1926.
12. Ordan, Harry, *Social Concepts and the Child's Mind*. King's Crown Press, 1945.
13. Russell, David H., *Children Learn to Read*. Boston: Ginn and Company 1949, p. 191.
14. Smith, Nila Banton, "How Will the Semantic Emphasis Affect Reading Instruction," *Education*, Vol. 69, No. 9 May, 1949. pp. 556-561.
15. Strouse, Jean, *The Study of Conceptual Readiness for Reading*. M. A. Thesis, University of Pittsburgh, 1942.
16. Thompson, Ruth C., *A Semantic Study of Current Basic Primers*, Ph. D. Thesis, Unpublished, University of Pittsburgh, 1942.
17. Thorndike, E. L., and Lorge, Irving, *The Teacher's Word Book of 30,000 Words*. Bureau of Publications, Teacher's College, Columbia University, 1944.
18. Yoakam, G. A., *Revised Directions for Using the Yoakam Technique for Grading Books*, 1941, Unpublished.